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ABSTRACT

Proceedings are presented of the National Network for Curriculum Coordination Conference, which focused on coordinating within the Network and expanding services to vocational educators. The conference keynote address, by Marvin Feldman, was Futurism - A Technical Revolution. Other items included were (1) presentations on the National Network for Curriculum Coordination accomplishments in 1979; (2) a report from the National Center for Research in Vocational Education on national product selection and dissemination, military curriculum, and information for national instructional development needs; (3) a paper, Creating a National Network for Curriculum Coordination in Vocational Technical Education Information Retrieval System for Instructional Materials; and (4) a series of four mini-session reports on topics such as apprenticeship programs curricula and a strategy for energy-related occupations and career choices. (LRA)

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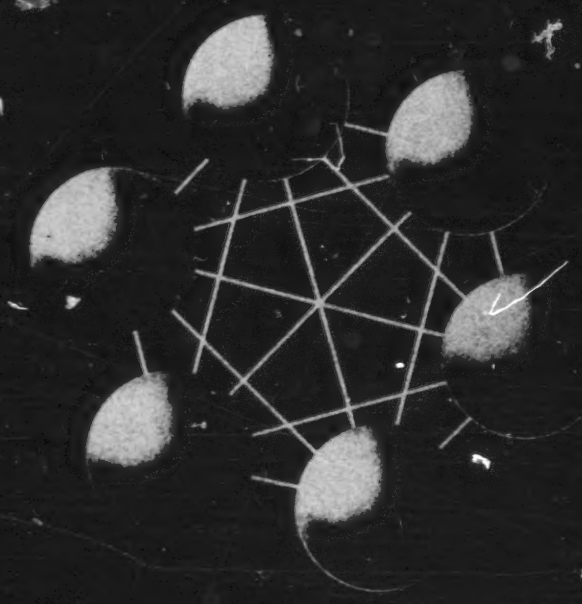

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National Network for Curriculum Coordination
in Vocational and Technical Education

OPERATION OUTREACH

Conference Proceedings

Concurrent Meeting

July 9-13, 1979

Denver, Colorado

Foreword

The National Network for Curriculum Coordination held its annual Concurrent Meeting July 9-13, 1979 at the Denver Marina Hotel, Denver, Colorado. The theme of the conference, "Operation Outreach", indicates the main goal of coordinating within the Network and expanding services to vocational educators.

The Midwest Curriculum Coordination Center did a fine job coordinating the conference, largely through the efforts of Ms. Joyce Sawatzky of the CIMC. The East Central Curriculum Management Center is responsible for this document, compiled by Ms. Pamela Crawford. These proceedings were partially funded by the Northwestern Curriculum Coordination Center. All the centers combined efforts and coordinated activities to produce a successful National Conference.

A special acknowledgement goes to the SLRs on the Concurrent Meeting Planning committee, who were responsible for the overall format, content and other arrangements. The Planning Committee included the Center Directors and the following SLRs:

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1979 National Network Directors' Council

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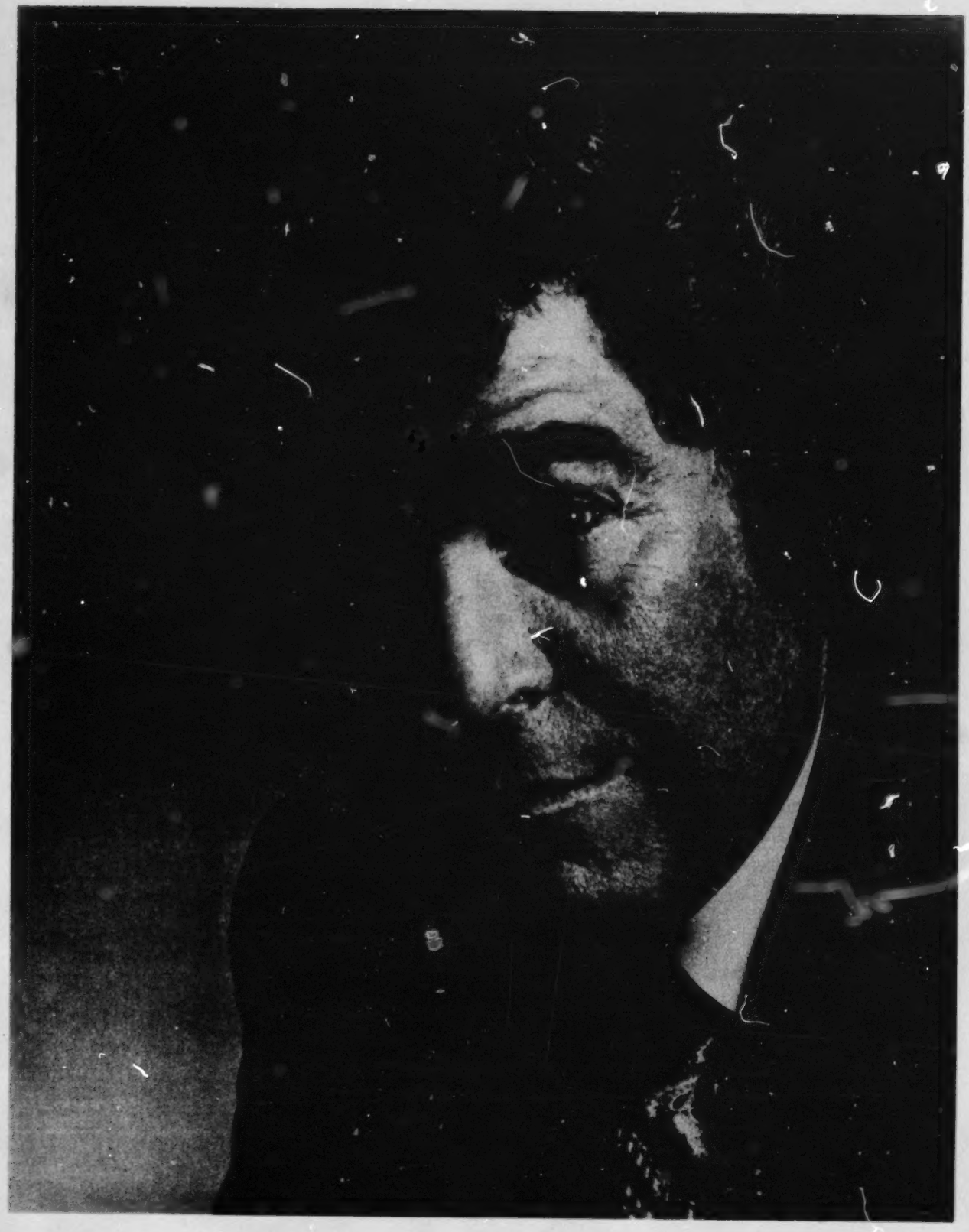


I. First General Session

Tuesday, July 10, 1979,
Joseph F. Kelly, 1979 NNCCVTE Presiding Chairman

A. Opening Remarks by Calvin M. Frazier, Colorado Chief State School Officer. He addressed the need for professionalism and sophistication in research and dissemination in the United States, especially at the local level.

James Wilson, Director, Colorado Division of Occupational Education, welcomed conference participants to the state. He gave suggestions and recommendations on the various attractions Denver and the surrounding area had to offer.

Irwin Kirk, Director of Educational Services, Region VIII, predicted a transition from an oil based economy to an other fuels-economy. He reflected on Denver's economy and environmental problems and the need to share technology. This age of transition in technology will reflect on changes in the schools and in future training needs.

B. Keynote Address
"Futurism - A Technical Revolution"
by Marvin Feldman, President, Fashion Institute of Technology

I've been asked to talk to you about the future.

That, as you know, can be a hazardous business because, as someone said, we have no facts about the future -- and never will.

Economic forecasters are lately in particular disrepute.

The President said a year or so ago he knows a Georgia fortune teller who is a better forecaster than the White House economists. And recent history is littered with the shattered egos of seers whose confident visions of the future turned out to be magnificiently wrong.

For example, Lord Rutherford, who is usually called the father of the nuclear age, said in 1933, "The energy produced by the breaking down of the atom is a poor kind of thing, anyone who expects a source of power from the transformation of these atoms is talking moonshine."

When, during World War II, our Manhattan Project scientists were working frantically to make an atom bomb before the Germans did, Admiral Leakey, then the Chief Of Staff, said, "The bomb will never go off, and I speak as an expert on explosives."

Early in the development of the Xerox process, a highpowered research corporation concluded that electrostatic printing was a clumsy substitute for carbon paper and could never be sold in volume. A few years later the Xerox 914 Copier had become the most successful single product in history.

Not too long ago, one of the developers of computers said probably only about a dozen big companies would ever be able to put computers to use.

But, in spite of the hazards, people go on making predictions.

Some are so familiar as to seem inevitable: automated highways; molded garments; and zero pollution by 1990 -- that the desert will bloom under enormous plastic awnings; and that we will soon have electronic mail and voice-activated typewriters.

Some predictions are merely frivolous: Marlon Brando will establish a new nation in the South Pacific; and we'll all soon be smoking safe cigarettes made of seaweed.

Many predictions are hair-raising: that there will be a shooting civil war in the United States; that Japan will sink into the sea; and that the world will be at war over famine or oil.

Some are exotic: creatures from outer space will come and live among us; and we will use psychic methods to enforce the law.

I'm not going to evaluate these predictions, but I am going to make some of my own, knowing full well that they may come back to haunt me.

But I am much more optimistic.

I think two revolutions are going on right under our noses, so close perhaps that we cannot see them very clearly.

One is a technological revolution which I think may in time have consequences which exceed that of the first, mechanical, phase of the Industrial Revolution -- a gathering, postindustrial revolution, so to speak.

The other is a related revolution in human consciousness -- a re-thinking of the right relationship of people to work.

These two revolutions, I think, will tend to be mutually reinforcing, and will transform society in ways most of us will applaud. And, of course, these twin revolutions have profound implications for the spirit and content of vocational education.

The technological revolution is perhaps the most familiar. Its basis will be the apparently imminent quantum increases in our ability to process and transmit information. And this has already become our largest industry.

Less than a century ago, most Americans were farmers. Then, as farmers drove off their farms in Henry Ford's Model T's, most Americans were industrial workers. Then, as the post industrial revolution gathered momentum, more and more of us became information handlers.

By 1960, handling information had already become the most common American occupation. By 1970, most workers, more than half the work force were involved in it. Information had become our central resource, and we had become a nation of information handlers.

Now, happily, staggering productivity increases are taking place in this now-basic industry and even greater gains are in prospect.

One computer expert illustrated the matter this way: If the automobile industry had developed as fast as the computer industry since 1950, he said we'd be paying $2.50 for a Rolls Royce that would get two million miles to the gallon.

These advances are at least as important to an information-intensive society as, say, the introduction of electricity was to an industrial one. There were corresponding increases in the efficiency of the methods used to transmit information. Microwaves bounced off satellites now transmit staggering quantities of information almost instantaneously.

These are as important in an information-intensive society as railroads or trucks were in transporting the raw materials and products of an industrial one.

But there is much, much more to come.

One scientist has predicted that newly developed superconductors may multiply computer performance 10,000 more times by the mid 80's.

Fiber optic cable, already tested in Atlanta and Chicago, sends laser generated light waves over tiny glass fibers much more cheaply and efficiently than present methods. Three thousand cable tv systems -- some with astounding two-way channel capacity -- now serve 13 million families and the number is increasing rapidly. Electronic meetings and the equivalent of electronic mail are not unusual. Soon they may be common.

Even the industrial sector of society is being transformed.

At the frontier, robots have now clearly escaped the world of science fiction. More than a hundred firms are making more than 200 kinds of robots. Thousands are employed in plants around the world, with computers for brains, doing exactly the routine, repetitive, backbreaking jobs men and women like least. Some robots can "see" with camera eyes linked to memory systems and "feel" with sophisticated sensors. Tomorrow's robots will hear and obey spoken instructions.

But the revolution in processing and transmitting information is of extraordinary importance. Consider some of the probable implications.

It may become much easier to take work to the people than to bring the people to work. In other words, we may not solve the problem of transportation in a mass society, we may simply by-pass it. In fact, when you look back over America's history, you see how rarely we have solved our problems and how often we have simply outgrown them.

The Industrial Revolution brought headlong centralization, huge cities, pulled people to the center. Its social effect was centripetal.

The Post-Industrial Revolution will almost certainly be centrifugal, reinforcing an outward movement of society, physical decentralization, local and individual autonomy. Skyscrapers may someday soon be an anachronism. More and more people may work at home or at least near home. Already a Chicago bank, to help ease a shortage of clerical help, hired people who could only work at home and linked them to the bank electronically.

But let your own imaginations go to work on how our society will be transformed when our central resource can be processed at almost zero cost and transmitted anywhere instantly. It may be that soon people will be able to work anytime, anywhere.

The other revolution, the revolution in our consciousness or right working relationships is equally important.

Let me quote a paragraph or two from an unusual article by Norman Macrae, the remarkable deputy editor of the London Economist. The piece is called The Coming Entrepreneurial Revolution and it appeared on Christmas Day 1976.

He believes more entrepreneurial corporate forms are the wave of the future.

Macrae points out that since the turn of the century 40 out of 159 nations have grown rich because they are able -- temporarily -- to increase productivity by a top-down form of organization in which executives arranged how assembly line workers worked with their hands.

But this era, he claims, is over.

"Educated workers do not like to be organized from the top" he writes, "and much of manufacturing and most of simple white collar tasks can be gradually automated so that more workers can become brainworkers."

And imagination, he points out, is a human quality that cannot so readily be organized from the top down.

Macrae sees large corporations devolving into "confederations of entrepreneurs." He believes, "many of the things that have been run by some disciplined process.....will need to be made much more entrepreneurial."

Just a few years ago, the head of a very large and successful oil company told a television interviewer:

"The worst thing that can happen is to have an employee that doesn't fit. A corporation has to have regimentation in order to run."

Now, just a few years later, industry leaders are telling us something quite different. Here's a quote from the head of a large company in the industry my institution serves:

"We need people who are resourceful and imaginative, people who have the confidence and courage to act effectively and decisively on their own.

We don't want people who only do what they are told; we want people who do what they can't be told."

So I think some powerful tendencies are converging. Technology is re-inforcing a welcome decentralization at a time when we are beginning to see the awful consequences of centralization. People are demanding emancipation from close supervision in work at a time when management styles built on proximity to workers are becoming technologically obsolete. Industry is asking for qualities of imagination, self-supervision, and resourcefulness -- at the same time people seem to be reaching out for ways to express just these qualities in their work.

One sure sign of the importance of these developments is the mushrooming growth of centers and institutes concerned with re-thinking the conventional terms of employment.

A few years ago there were none. Now there are literally dozens.

The implications of all this for vocational education are of course immense. The present surging demand for vocational education will almost surely continue.

Since the passage of the vocational education amendment of 1968 and 1976 vocational education expenditures and enrollments have burgeoned. Today more than one-third of the nation's high school students take vocational subjects and more than 50% of the nation's community college enrollment is in occupational programs. Total enrollments have more than doubled since 1968, from 7.3 million to over 15 million. Federal expenditures under the Vocational Education Act have increased from 262 million in 1968 to 674 million forward funded for 1980.

By 1976 (most recent published figures), state and local dollars were matching the federal dollar nearly ten to one for a total federal/state/local expenditure of 5.1 billion dollars a year. Vocational education is also, with increasing effectiveness, dealing with the specialized problems of the handicapped, the disadvantaged, sex stereo-typed and persons of limited English-speaking ability. It has also been especially successful in working with the private sector to provide work experience through cooperative education programs. Each year

370,000 students participate in cooperative education work programs.

Obviously, vocational education has made and continues to make an enormous impact in providing job skills. What it has done, it has done well. Due in part to the constraints of legislation, however, vocational education has done little to reach out and explore new concepts beyond the traditional role of preparing students for available jobs. It has not realized its full potential in the whole area of job stimulation and job creation.

We have held fast to the original philosophical base of Prosser and others that the task of vocational educators has been to prepare people - particularly young people - accurately for known employment opportunities.

But we cannot work in a vacuum. We cannot prepare people for jobs that don't exist. So vocational educators must now be concerned with the adequacy of employment opportunities.

There is gathering evidence that the American economy may be losing its legendary ability to provide employment opportunities.

We see chronically high levels of unemployment persisting even in periods of economic expansion.

The problem here and abroad is already getting critical and getting worse. It's clearly beyond the reach of present public policy. Education cannot create employment - nor can a manpower policy built on training or even so-called public service job creation.

Because public service jobs are not self-financing, but require support, they can only be considered a high cost palliative until a solution can be found. Clearly we need to find some new directions. There is no shortage of work. God knows there is plenty of work to do. There are plenty of people who want to get on with the rebuilding of our decaying urban centers. Plenty of mature and discriminating consumers want better products of better quality which meet higher aesthetic standards. We need new sources of energy. We need to conquer unconquered diseases.

There is plenty of work to do in putting our society on a recycling basis. There is plenty of work but a persistent shortage of jobs. Clearly then, there is growing friction at the point where work translates into jobs. It is time for policymakers to consider the advantages of preparing people not for jobs which will always be scarce, but for work which will always be abundant.

The vocational system has paid far too little attention to people who discover work on their own, who create their own employment, the people we call "self-employed."

These entrepreneurs are absolutely essential to economic vitality. What we call economic growth is at bottom a process of continuous economic renewal through change.

Small businesses are the principal pioneers of change in growth. Big businesses are not the course of economic growth, they are one of the results of growth. Large businesses tend to perfect and refine conventional methodologies, but the major changes are usually introduced by upstart outsiders.

Society is coming to a new appreciation of the essential role of the individual entrepreneur. Study after study shows that smaller businesses are the primary source of new ideas, new economic growth, and new work. Yet education pays little deliberate attention to the preparation for self-employment.

Not long ago, the MIT Development Foundation compared job formation in 16 companies. Six of the companies were seasoned giants with sales in the billions; some were larger companies with a history of innovation; Five were smaller companies built on new technologies. The period under study was 1969-1974.

The sales of the six largest companies such as Bethlehem Steel and General Electric grew 11.4% a year but their employment rolls increased at the rate of only six tenths of 1% a year. They created only 25,000 new jobs.

The sales of the five larger innovative companies such as 3M and Xerox increased 13.2% a year, and their employment rolls increased at the rate of 4.3% a year. These five companies created 106,000 new jobs.

The sales of the five small high-technology companies such as General Data and Computer Graphics increased 42 1/2% a year and their employment rolls increased at the rate of 41% a year. Even though their total sales were less than one-thirteenth of those in the largest group, these five small companies created 35,000 new jobs in five years - 10,000 more than the six giants. So I am convinced that the first new thrust in the future of vocational education in America will be a growing recognition on the part of policymakers that education for self-employment is a legitimate role for us and we will move into that area with great success in just a few years.

As machines learn to do more and more of the things uneducated people can do, there will be a continuing decline in the demand for unskilled labor and a multiplying demand for technicians of all kinds. But the requirements of these people will change and keep changing.

Herodotus said, "No one steps in the same river twice," meaning life does not repeat itself; it keeps flowing.

Robert Hillard wrote in the Futurist a couple of years ago, "At the rate at which knowledge is growing, by the time the child born today graduates from college, the amount of knowledge in the world will be four times as great."

"By the time the same child is 50 years old, it will be 32 times as great, and 97% of everything known in the world will have been learned since the child was born."

This simply means that the continuing struggle to keep the content of what we teach in touch with the real requirements of the work place will become more difficult and more important.

Lifetime, continuing education, was once just something we talked about to pass the heavy time at educational conventions.

Now it has become a reality for millions of Americans. In the post-industrial society, employment is requiring more and more education. As our enrollments continue to grow, adults will be the source of much of the new growth.

But most important, we are going to have to gear what we do to the developing of new relationships in the workplace -- find ways to nourish the imagination, autonomy, resourcefulness, the capacity for self-supervision.

For years, the Marxist critics of vocational education have accused us of conspiring with industry to "tame" their work force -- to produce people who would come to work on time, do what they were told, keep their mouths shut and respect authority.

We were supposed to condition people to regimentation.

Whether or not we were guilty, perhaps we should now conspire with industry to see how we could change what we do to produce the more entrepreneurial workers they will need, more and more in the future.

We have historically divided the arts to which we educate people into three separate domains: the practical arts, the liberal arts, the fine arts. These three domains must now be integrated. To do so, we must see their inter-relationships much more clearly than we have ever seen them before. And we must bring them together in all our institutions.

All the arts are, in their way, liberating.

All of them free us from enslaving limitatons.

All of them enlarge us, although in different ways.

The practical arts are the arts of function.

The practical arts provide independence from degrading toil.

The practical arts free us from the anxiety of insecurity.

The practical arts allow us to participate in society and share in its reward.

The liberal arts are the arts of meaning. Its mastery provides a sense of purpose, of relationship, of order. They help us know the full range of human possibilities. They guide our restless efforts to perfect our institutions.

The fine arts are the arts of transcendence. Their mastery provides a sense of depth, of mystery and majesty. They remind us that we can create more than we can comprehend. They free us from the anxiety of limitation.

We have educated large numbers of people in the liberal arts. But the practical arts and the fine arts have been reserved for a few. Now that must change. The education of isolated specialized elites is a thing of the past. The new mass aristocracy is demanding preparation for participation in the larger human experience, and we must provide it.

Arthur Wirth in his book about John Dewey and the separation of vocational liberal studies writes,

> "Dewey argued that the question of how to interrelate technical and liberal studies in American schooling was ultimately related to the question of what quality of life would obtain in American technological civilization."

Vocational education has always been education for participation. We have taken people whose ability to participate in the world of work was minimal, and enlarged that ability by teaching practical skills.

We have taught our students, incidentically, a measure of awareness of the liberal arts, and a measure of appreciation for the fine arts. But awareness and appreciation are passive and non-participatory. And that is no longer enough.

People are now yearning to participate in the intension of our culture.

John Dewey, that unread and misunderstood genius of educational theory also wrote that a proper conception of industrial education would, "Prize freedom more than docility, initiative more than automatic skill, insight and understanding more than the capacity to recite lessons or to execute tasks under the direction of others."

Dewey was suggesting that we prepare young people to be self-supervising -- entrepreneurial -- whether on their own or inside larger organizations.

Yet we know surprisingly little about where entrepreneurs come from, what they are like, and how education might better nourish and instruct the entrepreneurial impulse.

Shapero's studies suggest that entrepreneurs are often poor performers in school. Often, they are dropouts. This clearly could mean that conventional educational programs are neglecting the nurture of the imagination.

In any case, the decades just ahead hold exciting times for vocational educators.

John Baskin in his splendid book New Burlington, states, "I think we are all faced with two problems, and they are basic and countervailing: how to live honorably, and how to support an honorable life."

I feel in my bones that in the post-industrial society these two basics may not be countervailing anymore.

And we can all take part in helping that come to pass.

Thank you.

C. "Reaction to the Keynote Address"
by Gerald Day, Maryland State Liaison Representative and Patricia Lindley, Texas State Liaison Representative

1) Gerald Day, MD

I have bad news and good news. The bad news is that before Labor Day we will be spending $1.50 per gallon for gas and there will be long lines for gasoline throughout the nation. The good news is that pretty soon we will be able to sell our cars for a condominium.

I used to be a futurist but found that the more I dealt with the future and planned for the future, the more I got behind with the present situation. So I fell back and am now dealing with the present. What I try to do after a speech, lecture or workshop that I go to is try to sit back and write down what is the most important learning that I received from this experience. I think that throughout the speech that Dr. Feldman gave there are a lot of questions and a lot of paradoxes as to which curriculum leaders and specialists in the nation we have to address. First of all I think there is a paradox between the two revolutions that have gone on and that of technology and humanistic types of experiences. And how we design curriculum takes into account both the technology and the humanistic parts of curriculum. I know that most of you would agree that one of the biggest movements in curriculum now is to design competency based programs that identify competencies that workers need on the job. Unfortunately a lot of these competencies are more technologically oriented and maybe we are forgetting some of the humanistic types of competencies--attitudes, work habits, etc. I think it is easy to deal with manipulative type skills but I think we run into trouble trying to identify those work habits and attitudes and then we run into problems teaching it and evaluating it.

Another important point that Dr. Feldman brought out and I really never gave much thought to is how do you design a curriculum for self-employed people? I think that most of our vocational programs are geared towards people who will be going into specific jobs in society that are not considered self-employed. So if this is a trend maybe we should be taking a look at the curriculum that we are designing now and in the future and see how we can better fit that to people who will be self-employed in the future.

Also a point was brought out about the concept of handling information. I know as a state leader in curriculum this is very difficult for me to handle. All the information that is being gererated in curriculum and keeping up with that information. Now, unfortunately, I don't have clone or robot that I could program into all these bits of information. I have to ask what is available in a certain area or what is going to happen or what you have in curriculum. It's very hard to handle that information. So I think again in terms of designing any curriculum we have to take a look at that whole area of how do you process that information. And I know for example in a specific area in vocational education, business education, we are looking at word processing. The problem we are having in Maryland is that most of the business education courses are traditional. They like typing I, typing II, shorthand, accounting, data processing, etc. and they don't want to get into word processing. And a lot of the cop out statements are to the effect that well there are not too many industries using the word processing equipment because of the cost of the equipment. But again, I think that the future trend in vocational education has to take a look at that area of word processing.

Another kind of a dilemma or paradox is a statement of decentralization and this has implications not only for curriculum but also for the concept of networking. If it is important to be more humanistic in decentralized technology, what implications does that have on networking, on curriculum, etc. And again the role of decentralization and centralization within curriculum development and sharing of curriculum is a very important issue that we have to try to resolve. How do you design a curriculum that fits a society that wants more decentralization?

It was interesting to hear the comment about cooperative work experience programs. I can only speak from the perspective of Maryland but coop programs have been fairly successful in Maryland. Unfortunately, a lot of those programs are designed to allow the student an alternative to the regular school program. And a lot of programs are such that if you want to be released half a day, you are dumped into coop programs and you go on the job for a half day. Unfortunately, a lot of those jobs are kind of menial. They are flipping hamburgers at McDonalds. And I think the jobs in the situation that Dr. Feldman has experienced and promoted are jobs and programs that we have to promote too. That means improving the cooperative work experience programs and the curriculum that we now have in existence.

Another important statement that struck me as very significant is the statement that education cannot create employment. Nor can a manpower policy built on training or even so called public service jobs create employment which might go against Carter's policy of creating all of these public service jobs. But again that is food for thought and I think we have to analyze that and see what meaning that has for vocational curriculum.

It's a paradox to try to figure out how we can design good curriculum. That is that there is plenty of work to do but there is a shortage of jobs. But again we have to design curriculum that is designed around work and maybe not necessarily jobs. I think I would conclude by saying the overall thing that struck me about the speech was the idea of self-employment. How do we design curriculum for self-employed individuals? And enterpreneurship? Recently within Maryland there have been a lot of community colleges that want to design curriculum for enterpreneurship for self-employed individuals. So maybe this will give me some food for thought and ammunition that I can go back into Maryland and try to figure out what to do about the situation. I would like to thank Dr. Feldman. I've heard many, many futurists talk and after you come out of their experience, you feel real excited, etc. but again Monday morning comes back you have to have the paper on your desk and you go back to what you've been doing in the past. Hopefully, this has changed our life in a significant way. Thank you.

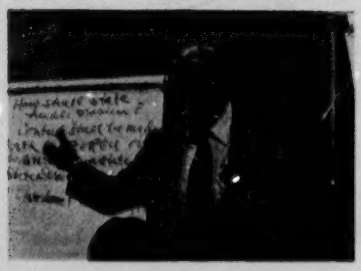
2) Patricia Lindley, TX

My immediate reaction, not only to the task at hand but to Dr Feldman's speech, was panic. Because I think it is not only tremendously exciting and tremendously challenging--it just scares the devil out of me to think how we go about transforming the monolith that is vocational education into something dynamic enough to think about the future instead of thinking about only training for the occupations. I'd like to add a little personal story and I might come off sounding like a home economist which sometimes I do. I hope that I've progressed beyond that but I hope I never leave it behind me. In 1973, a very major study was done in the State of Texas on vocational education for Mexican-American youth. Now over a third of our public school students in Texas were Mexican-Americans at that time. They have the lowest educational attainment of probably any ethnic group in the United States although since this study in 1973 a lot of changes-advances have been made. But it is important for you to know that for about the past 10 years within the State of Texas home economics has been concentrating very very heavily on value clarification on the work ethic, on responsibility, and on standing on one's own two feet is really the way I put it. This study done in 1973 of thousands and thousands of Mexican-American students showed a significant difference among the women students and the male students who were tested in work attitudes. I'm probably the only person in the state that connected this to the fact that almost every Mexican-American girl in Texas is channelled into home economics. You know home economics is constantly put down and all these studies will say here is this vast number of vocational students and yet a large percent of them are taking home economics. Well I had contended for quite some time that something is being taught in good home ec. programs, much more than basic skills and I believe that all of our programs need very strongly to

inculcate these same types of learning. And I speak for welding and all these things that we are trying real hard to push the young women, the adult women, into the nontraditional job skills, for they certainly do pay better. But I think there are things to be learned and I would love to do another survey.

I would like to get some evidence that when you talk value clarification that maybe it stays. I think that all of us share my fear. You know, how do we do this when we teach T&I, when we teach agriculture, when we teach office occupations? How do we get beyond the job that is available into the job that will be and how do we prepare people for enterpreneurship? I saw in my own office this spring a really sad example of the fact that pluck is not enough and the desire to run a small business is not enough. People need help with the mechanics of doing this. A secretary who has been with our office for about 12 years bought a small restaurant and it went just right down the tube in six months time. Now we are told that in Texas, at least, restaurants and specialty stores, childrens' clothing stores, gift shops and women's small dress shops are the smallest failure rate of small business. We certainly have worlds of people with this desire to be their own boss and we need to give these people help. I sat there and I advised the secretary with the restaurant to go to the Small Business Administration because I really felt that they would have books on how to keep accounts, audit procedures, cost control and all of these things. Dr. Feldman is shaking his head. He's exactly right. The man in Austin, TX spent 20 minutes with this woman and gave her very little of value. And I felt that I had failed her because I knew what she was facing trying to stay a secretary and run a restaurant. And even I know that small businesses have to have 12 hours a day of the enterpreneur's time. But we truly need this material.

I'd like to react to my co-reactor's remarks if I may. He spoke about menial character of flipping hamburger at McDonald's but we're finding in Texas that an awfully large percent of our kids that go into fast foods are advancing faster than any other type of coop. McDonald's, the Sirloin, the Sizzler, and Kentucky Fried are taking these coop kids and in many instances in two years after high school they are manager's of their own store. So I think there is a vast future in these "menial jobs" like flipping hamburgers if we can convince the kids that there is a need and it may be menial for a year or two but the future is there.



II. Network Accomplishments in FY 1979

A. Northeast Network - Richard Monteith, NH

Our October, 1978, regional meeting was held at the Educational Testing Service in Princeton, New Jersey. ETS staff involved in basic skills testing, career assessment, the test collection library, and vocational education evaluation systems delivered very informative presentations on their activities and services. At this meeting we approved a set of regional goals and objectives for 1979, which were embodied in New Jersey's successful competitive proposal to provide central services for the Network. Our plans for the year include priorities in the areas emphasized by U.S.O.E. Deputy Commissioner Dunham, as well as network priorities derived from our state vocational subject curriculum needs.

Several programs disseminated through the Network directly address these priorities. New Hampshire has distributed several documents concerned with effective curriculum management, particularly John Faust's guide for individualizing vocational instruction, a state curriculum development manual, and a guide to establishing curriculum components. In this same area, the New Jersey Center developed and distributed a slide/tape presentation on vocational curriculum development which was very well received by state representatives.

The most exciting development in the basic skills area has been Connecticut's publication of their readability analyses of vocational texts. This project, which will continue in related and academic areas, is a spin-off from Connecticut's involvement in the Vocational Reading Power Project from Michigan. Schools can use the Connecticut study in the selection of texts and in planning vocational reading programs.

New Jersey has begun publication of a series of Spanish-language materials for bilingual vocational education, and has been active in assembling resources for this regional priority area.

New York's handbook for teachers of adult occupational education, first presented to us by Earl Hay at our Atlantic City meeting in December of 1977, has been selected as one of six products for national dissemination and utilization by the National Center for Research in Vocational Education.

Our first meeting of 1979 was held in May in Boston. We had a turnover of half of our representatives between October and May, and spent some time getting acquainted and familiarized with the Network's activities. New services established by New Jersey's 1979 proposal were reviewed and new initiatives, such as interstate curriculum development, were approved in principle.

The Network staff stopped over on their way to Boston in Rhode Island and conducted an orientation workshop for state and local personnel.

In June, Denise Frobose of the New Jersey staff went to Massachusetts to conduct workshops on Network activities and services. Presentations of this type are planned for Vermont and New York. These workshops, set up in cooperation with state representatives, seem to be very effective ways of directly communicating with local personnel about the benefits of using Network services.

The Network has made some technical improvements to inform on and document services which should increase the efficiency of these services. Our microfiche documents, which we now receive in reproducible form, carry abstracts and sex bias and qualitative evaluation information. The abstract form is the basis for the form used for the display here, and it was originally developed by New York. The center is also providing direct access to extensive New Jersey audio-visual and document collections and is conducting regular computer searches of ERIC using state representative professional interest profiles.

Another improvement has been the use of self-addressed post-cards for service assessment purposes. This instrument requests important "impact" information, particularly estimates of time and money saved as a result of services. Our rate of response has been good with these instruments, and the evaluations received have been quite favorable.

However, this matter of impact reporting continues to plague us. Simply put, we believe the Network has significant positive results which are not amendable to purely quantitative measurement. The Northeast Center has developed an impact information collection instrument for our use which should ameliorate the problem somewhat, but we emphasize that the estimates of significant savings which we have established are conservative and partial, particularly for the smaller states of our region. The Network has become the primary point of access for vocational curriculum information.

B. Northwest Network - Doug Hammer, ID

Representatives met in Laramie to develop a "Guide for Curriculum Adaption" under the coordination of Jim Zancanella, Wyoming SLR.

A good deal of previous effort went into guides for curriculum development and more emphasis was needed in adaption.

The next major effort was coordinated and developed by Verdell Jackson, Alaska SLR, in the form of strategies for delivery of vocational education to rural schools. Thirty strategies were developed and are available.

In an effort to investigate the feasibility of developing a Northwest Curriculum Consortium, a proposal was presented to the State Supervisors of those states at their meeting. Rather than take the big step they proposed a joint development effort in one area - that being Energy Education. Each participating state contributed $2500 toward the development of an Energy Education Consortium which met in Portland and developed an energy proposal. Success of the proposal is still not certain. However, sixteen Senators from all eight states have signed a letter to the Department of Energy supporting the project. There are still a lot of options. At least a good exchange between states has taken place.

We currently are planning our fall meeting in Alaska, for the last of September.

Two other activities planned are:

Cognitance Mapping (Learning Style) Workshop in Laramie for teacher educators, and one in western Idaho for vocational counselors.

C. Southeast Network - John Crittenden, FL

The Southeast Network has conducted a variety of activities to provide services to the eight states in the region. However, since the fall of 1977, the focus has been on providing resources designed to assist vocational personnel in the adoption/adaption of instructional materials for handicapped students.

At Nags Head, NC in 1977, plans were developed for an 18 month period that began with data collected on available materials for the handicapped. Materials located in the search were abstracted and produced in a publication titled "Vocational Education Curriculum Materials for the Handicapped" during the spring of 1978 and placed in the National Network at that time.

For several reasons, activities in 1978 were concentrated on materials designed for EMR students. Materials produced by personnel at the Sarasota Student Center, Sarasota, Florida, were studied. These materials were designed for individualized instruction for the handicapped in horticulture, building maintenance, food service, business, reading, math, art and music.

Also studied were the results of a demonstration project from Mississippi that provided exploratory experiences for EMR students to aid in assessing the probability of their success in regular vocational programs. Areas covered were woodworking, horticulture, ceramics, weaving, stitchery, food service, plastics, assembly/disassembly, plumbing and fabric printing.

In the fall of 1978, materials and methods used in North Carolina were examined. These materials were used to instruct students with such handicaps as visual, auditory, orthopedic, neuromuscular, and chronic health conditions. Also studied were modules developed in Kentucky which can be adapted for use with handicapped students in the areas of cashier/checker and gardening/groundskeeping. In addition to these activities, a school in South Carolina was visited to observe the use of materials/methods used with students having a wide range of severely handicapping conditions.

As a result of these activities, a publication was developed titled "Vocational Education for the Handicapped - A Selected Resource Guide." This publication provides vocational instructors with a catalog of information on available materials found to be useful in modifying programs to meet the needs of handicapped students. It includes curriculum materials, information about the handicapped, and a list of agencies providing services for the handicapped.

In March, 1979, SLRs reviewed curricular/instructional materials for adaptability to the needs of the handicapped. Resource packages are being developed for teachers to use in modifying programs to include handicapped students. Individual resource packages will be designed to provide instruction for students with visual handicaps, hearing problems, orthopedic, neuromuscular, and chronic health conditions. This package will be placed in the Network for dissemination.

D. Midwest Network - Bill Jackson, NM

The region meets four times per year for three days each. Our Network has concentrated efforts toward the elimination of duplication within the Network:

1. Arkansas is using Missouri's Health Education scope and sequence materials;
2. Texas is using Oklahoma's Needle Trades Curriculum Manual;
3. Several states are adopting East Texas State's DE material and their materials for the handicapped; and
4. 58 publications disseminated by the Midwest Network are in use by teachers.

As a result of these activities, there was an estimated savings of $600,000 in the region.

The Regional Center has developed and disseminated material on sex equity. They have conducted workshops on the utilization of these materials. The Regional Center is also responsive to the needs of the states by conducting workshops, inservice, and searches and by dissemination of materials. Center staff made 19 visits to the regional states in the last year.

Our region has developed a uniform format for developing materials which is easily transported across state lines. Each state has developed a system for the dissemination of materials to teachers. States in the region have also cooperated in field testing material developed by other states in the region. All states have either received in-state assis-

tance or consultive services by Regional Center staff. There is also a uniform system for evaluating curriculum materials which involve state staff, teacher educators, administrators and teachers. They provide feedback to the Network Director.

The Midwest Region has worked with HOSA to develop a curriculum outline to integrate HOSA into the classroom phase of HOE.

Our region has cooperated with the Ohio Center and with MAVCC. There is 100% participation of our SLR's.

E. Western Network - Shirley Manion, AZ

The Western Center has acquired a variety of equipment and hardware, e.g., microfiche reader, card catalog duplicator, cassettes, etc., to improve its services to clients.

A WCCC display board and set of display materials have been duplicated and sent to each state and territory.

Special interest bibliographies of WCCC holdings have been prepared. These include:

1) Energy and energy-related curriculum and resource materials - prepared for the Reno meeting, November, 1978.
2) Agriculture curriculum and resource materials - prepared for a conference of agriculture instructors, June, 1979.
3) Small engines curriculum and resource materials - prepared for a workshop for instructors, June, 1979.

A catalog of vocational education curriculum holdings in WCCC was prepared and distributed in January. An updated catalog is scheduled for publication in December.

The curriculum holdings of the Office of the Hawaii State Liaison Representative have been absorbed into the WCCC Resource Center to avoid duplication in the state of Hawaii.

A WCCC regional search request form was developed to supplement the NNCCVTE search request form.

Regular publications continue to be prepared and disseminated. They are the quarterly newsletter "The Communicator," the impact report, and the vocational curriculum profiles.

The WCCC Council held two meetings since the National Conference in Austin last July. One was in Reno, Nevada, November 28-30, 1978, focusing on energy curriculum materials, and the other was in Saipan, Commonwealth of the Northern Marianas, March 5-6, 1979, focusing on inservice training. The next meeting of WCCC will be held in Sacramento, November 28-29, 1979.

There are two new SLRs. Brent Aiken, replacing Mary Lou Hill from California, and Dr. John Salas, replacing Peter Nelson from Guam.

Linkages were established between WCCC and the following:

1) USOE Region IX - Dr. Caroline Gillin, Region IX Commissioner, visited the WCCC and hosted a meeting between USOE, WCCC, and Pacific Territories in November, 1978. Sam Cespedes of the USOE was assigned as Region IX Representative to WCCC.

2) NCRVE - Juanita Bice was assigned as liaison person between NCRVE and WCCC. She attended the Reno meeting, but was unable to attend the Saipan meeting.

3) National Diffusion Network - A member of WCCC staff serves on the Advisory Council for the Hawaii Education Dissemination Diffusion System, a part of the NDN. Also, the director of the WCCC participated in the National Diffusion Network Conference held in Arlington, in August, 1978. All territories/states of Region IX participated in the conference.

4) SACVE - SACVE continues to be linked with WCCC, e.g., members have consistently attended WCCC conferences as observers and SACVE meetings are scheduled con- currently with WCCC meetings.

WCCC participated in the following workshops:

A. Regional
   1) In Saipan, Commonwealth of the Northern Marianas, May 5-6, 1979 during the WCCC conference.
   2) In Hilo, Hawaii, March 28-30, 1979 during the AVA Region IX Conference.

B. State
   1) Phoenix, Arizona, May, 1979.
   2) Honolulu, Hawaii, August 23, 1978.

C. Local
   A variety of places in the state of Hawaii (Scheduled: Carson City, Nevada, August 20-22, 1979, during the annual Nevada Vocational Conference.)

WCCC held an open house during the National AVA Week, February 11-17, 1979.

WCCC received a contribution from American Samoa in 1979. WCCC in Hawaii is in its 3rd year of funding from USOE. And member states/territories have agreed to contribute funds to WCCC.

WCCC is a continually expanding network. In 1978, the Commonwealth of the Northern Marianas was added as the eighth state/territory in the Western Region. Since then two districts of the Trust Territory of the Pacific Islands, the Marshall Islands and Palau, have opted for independent status from the Federated States of Micronesia and may become the ninth and tenth members of the WCCC in 1980.

F. East Central Network - Linda Cochran, MI

The East Central Network has been productive this year. The ECCMC Library, whose collection includes 12,321 books and 1,000 audio-visuals, has shared 86 items and filled 2,076 requests. In addition, 41 workshops have been given by ECCMC staff throughout the region. We have public service films, VECs materials, and Expanding Career Horizons, to name a few of the inservice topics.

The East Central Region has shared information via ECNCC Profile, as well as through newsletters. We conducted a survey of curriculum "needs" and "haves" and shared the results with the RCUs and the NCRVE.

The East Central Network conducts searches for available curriculum materials in order to avoid duplication of effort within the region and the Network. Last year the ECCMC conducted 58 state searches, 71 regional searches, and 42 national searches. Over $925,000 has been saved and 9 states adapted materials in the last year.

In addition to all these services, the East Central Network has developed many products in the last year. A resource booklet entitled "Vocational Education's RFP Process: Synthesis of 18 State's Practices" was disseminated to all the SLRs. The East Central Region's newsletter, the Center Critiques, is disseminated biannually to the Network. A new ECNCC "Capabilities Booklet" and an ECCMC brochure were developed and are disseminated upon request and at workshops and inservices.

III. Afternoon General Session

A. U.S.O.E. Projects Report
by Mary Marks, U.S.O.E.

Ms. Marks approached the topic in three different ways. First she spoke about the intent of the legislation and why curriculum is where it is. Then she discussed the planning process that converts ideas and suggestions into projects that eventually become funded through the Federal resources. Last she addressed USOE priority areas and what could be done about those priority areas which were recently announced in the "Federal Register". Excerpts from her speech follow:

"The main thrust of our legislation was to improve, to redirect, to respond, to renew, you could put a lot of re's in front of a lot of good solid verbs, and that was the intent of the 1976 legislation. It had two parts which had to do with curriculum activities specifically. That is the Program Improvement part which is the matter of concern to you as a members of state staff and as representatives of your state director and your state plan for curriculum research demonstration teacher education. The same authorization that is given for the state improvement part is just picked up and moved over into the Federal part which is called Programs of National Significance. That to me says that there was supposed to be some kind of linking with what the state proposed to do; linking upward to us and linking from the federal level to the state activities to priority areas. The legislation does address research, it addresses something called curri-

culum development, demonstration, personnel development, and it goes into sex equity, new and emerging occupations, and guidance and counseling.

So there are areas which the federal level is responsive to, as well as the state level. Maybe this is where sometimes we don't get a handle on what each of us is doing and what each of us is responsible for. But it seems to be that we are talking about a national system of research and development, demonstration and training. I want to talk a little bit about programs of National Significance. That is the part of legislation that I represent. I'm part of the Division of Research and Demonstration in the Bureau of Occupational and Adult Education. There is a Research Branch. There is a Demonstration Branch. There is a Vocational Education Personnel Branch and there is the Curriculum Development Branch. The branch chiefs all work together in setting some kind of priorities and policies, procedures that can be responsive to the authorities under which we operate and also under the policy and direction of our administrators. And our administrators at the federal level obviously start with the President of the United States. He has his priorities, they go to the Secretary, he has his priorities, they come through the Assistant Secretary for Education, to the Commissioner of Education, to the Deputy for Occupational and Adult Education. To all of these individuals and in addition, to a very important group called the Coordinating Committee for Research in Vocational Education (CCRVE). The Coordinating Committee is made up of representatives from the head of NIE, the head of Career Education, the head of the Fund for the Improvement of PostSecondary Education, and the head of Office of Education being represented by Dan Dunham who then transmits this to Howard Hjelm who is the Chair and the person who does much of the coordinating and interchanging of information, direction, and setting of policy. The idea of the Committee is that we all pull together to avoid duplication in our research efforts, in our administration efforts. I've been asked many times what is a Program of National Significance. Programs of National Significance treat broadly compelling issues that are both economic and social on the national level. So the level of treatment and the level of identification of issues is nationwide at the Commissioner's discretionary program. So there are social issues where vocational education can make a difference, there are economic issues where vocational education can make a difference.

I think also the Programs of National Significance are designed at least in our minds to use the Federal resources to lever the state resources. To provide the findings of research, of curriculum, of demonstration, fellowship programs, products, to the states for the states to pick up on them, demonstrate them, adapt them, field test them further for their own state's use. Now this Network is very important because the Network takes the federal products and calls them to the attention of those who are potential users. We try to build into our Request for Proposals a requirement that some mechanism be established by the contractor, whoever receives

this curriculum award, that he/she will connect with the curriculum network, and that he/she will plan for a system of dissemination and utilization. An example is our work with the Department of Defense, where through federal funding a system has been developed that will access the National Center for Research's military materials that are being used to train for civilian occupations. The National Center has been able to develop and implement a system to make these materials available that they themselves designed under a separate research contract some years ago. So federal funds have been used to lever what is going on in the states, to create a national system for the development, dissemination and utilization of products that are both federally generated, state generated, and locally generated.

I think a Program of National Significance also addresses things that are emerging areas of need, but frequently the state resources are not adequate to give a new area the comprehensive treatment that it should have, so we find that there are job opportunities for which curriculum needs to be available. For example, we have done a considerable amount of work in nuclear energy. No one state would have been able to marshall the resources to provide the comprehensive treatment of energy through nuclear processes of creating energy so the federal government picked that up. We also did some work earlier through Western Michigan University and again this was a contract through Ohio State University on the application of metric measurements in vocational education. That was before the Metric Board came into being and before indeed there was a national policy to convert to a metric measurement. It's that kind of being on the edge of something in time to treat it, that makes it a national project. A national project should also build on what is already out there. If it is appropriate, we do require our contractors in national projects to identify what is already out there, to use what's out there, to fill in the gaps, and to redirect or modify if need be. So when we ask you to address national priorities, we would ask you to try to think of Programs of National Significance, those that are probably not going to be treated by the State, things that are emerging and things for which you wish something was out there.

The federal government does not develop curriculum. It makes it possible for people who are developers who have the expertise in the content and the process to come together. The federal government is the facilitator of something that is developed by knowledgable people who can be depended upon to produce useful, valid and reliable kinds of materials. Anything that has to do with the content and process of learning is a concern to the curriculum development branch, and curriculum development under the aegis of Programs of National Significance.

This is why we funded the Vocational Education Curriculum Specialists Materials (VECS) for the use in advanced degree programs. We have now funded further field testing of it. Instructional materials for teacher and student, program organizational guides - how do you put it all together and get it out there? That's a matter of instruction and we consider it curriculum development. The federal government considers the broad treatment of what is curriculum. We consider materials utilization a part of curriculum development, demonstration, field testing, hard and software, print and non print, dissemination and diffusion. You can't separate the content of instruction from the people who are on the receiving or learning end, and the teacher or administrator who arranges all of this to take place.

Planning for Programs of National Significance -- our premise is, from the beginning, that we should concentrate our energies on one particular area over a period of time. Now the National Advisory Council for Vocational Education said in its report on assessment of what we were doing that we needed to have more evidence that we were being consistent in the areas in which we were developing so that you could get some end results. We feel that there should be an involvement of someone other than the people who are in the Division of Research and Demonstration. And so we call on specialists from other federal educational agencies. If we are working in the area of handicapped, we feel we need to have the expertise in our planning that someone from the Bureau of the Education of the Handicapped can bring to us. We have another premise and that is these projects should desirably be 18 months up to 3 years in length. If someone gets on board on a project, he/she ought to have enough time to carry it through without having to stop and write another proposal for the second phase.

We say proposals must be competitive. We do not entertain field initiated studies, or sole source. We find many people who are used to an old system send in to us ideas that they would like to have funding for. We have to return them to them.

Prior to the 1976 legislation, half of the money for research and demonstration went to the states and half of it stayed for the Commissioner's use. The Commissioner's program was pretty much grants. But we are not in a contract mode. A contract mode says that you are procuring something for the use of government. Now our use of curriculum products is to put them into your hands, to fund the centers and the networks so that these get out, get visibility, and hopefully, get adapted or adopted. But it is for our use to achieve our purposes.

There seems to be some misunderstanding about the kinds of things that we can do. They must be nationally significant, they must be for the use of the government, and the money that used to be held in our office, half of which went to the states, now all of it goes to the states in your 20% money to be used as the state sees fit. Another premise that we operate from is that we must move out or disseminate what is developed.

The process for 1980 is already underway. I don't know if we are going to have adequate money to address those things which we feel need to be addressed in 1981 because we always plan a year ahead.

Since the advent of the National Center for Research in Vocational Education, they have a responsibility to provide us with areas which through their study they determine to be areas where attention needs to be given in materials development - in priorities. They advise with us to determine priority areas. We recently announced the 1980 priorities. August 1, 1979 is the deadline for suggestions.

U.S.O.E. printed a brochure for the National Network. It is available for dissemination. Extra copies may be obtained currently from U.S.O.E.

B. "National Center for Research in Vocational Education"
Introduction by Dr. Juanita Bice.

1) "National Product Selection and Dissemination"
by Norm Singer

Materials are sent to the National Center and criteria are applied to determine if it's disseminable. Forty-three hundred products were also screened for the ERIC Clearinghouse and 200 were chosen. Some of the criteria for this screening are: is the material priority legislation, is it for general user groups, and is it applicable to national use.

For materials selected for the National Center use, selection criteria include consideration of size of audience, writing style, whether it's easily adaptable and usable, appealing in design and format, and if it needs a minimum of implementation training. Criteria used to eliminate materials are sex stereotyping, incomplete or poorly written copy, material too complicated to use easily, and if they are final reports. Examples of some of the products include a slidetape with posters, a model for administrators containing assessments of vocational programs and accountability strategies, a test manual for special needs, a film, book and printed material on special needs, and booklets and posters on sex fairness. These selection criteria are available through the National Center.

After the initial selection screening, a Corroboration Panel will review the tentatively selected materials in early August. Then arrangements are made with the developers for training, etc. There will be a final input meeting in October, then the National Center will disseminate at least eight products. The publication, "Interchange" lists products, prices and availability.

2) "Military Curriculum Update"
by Shirley Chase

There are currently 120 courses on microfiche and 13 on paper. The basis for choosing these materials is the final report for 1978. The National Center is continuing liaison activities with the military branch and follow-up with teachers. Courses selected are those that are not available through other sources, and those which are reviewed by a curriculum specialist. They plan on using coordinating materials with the courses, and they also plan on expanding the project to include other federally funded projects. Thirteen courses have been selected for next year, including Health, Law Enforcement, Photography, Equal Opportunity, and Data Processing.

The results of the survey show that the materials are used as resources in curriculum development and as teacher aids. They are average in usefulness; the microfiche copies are low to average. They are promoted by newsletters and workshops. The program level is vocational, technical and adult, and they are used mostly by program instructors.

3) "Information for National Instructional Development Needs"
by Jill Russell

This is the second year of this project to look at new and changing occupations and their curriculum development needs. USOE will consider the input from this project in its priority setting. They are also looking at additional conversion of military curriculum to meet the civilian need. So far the priority for new and changing occupations curriculum are in the following 12 areas: Microprocessing Technician, Recoverable Materials Coordinator, Housing Rehabilitation Specialist, Case Manager for MH/MR Community-based Clients, Energy Efficiency Technician, Avionics Maintenance Technician, Coal Related Occupations, Petroleum Related Occupations, Laser-Electro Optics Technician, Diagnostic Radiologic Technician, Industrial Chemical Lab Technician, and Tumor Registrar. Ms. Russell requested information on any existing curriculum for these areas be sent to her at the National Center.

C. "Instrumentation Models for Curriculum Availability" by Tom Hindes and Meg Murphy

1) Tom Hindes, OH SLR, illustrated the need for a sophisticated data retrieval system to respond to requests faster. The problem with the current system is that it is a Catch-22. Publicity for the system creates an interest, but the public needs are greater than the ability to respond promptly. If the response to the request can be made immediately, the system is good. However, if it takes too long to get the material, then the system is not efficient.

Hindes advocated the adoption/adaptation of the East Central Region's Have/Need Matrix. This system allows the resource person to immediately see what types of curriculum materials are available from each state. It also shows what types of materials each state needs. A sample of the Matrix follows.

Hindes also noted the need for an update on the methods of system operation. He stressed the need to streamline and make the delivery system more efficient.

TECHNICAL EDUCATION

For the occupations listed below, indicate by placing a check (✓) in the appropriate right-hand column whether you have or need the itemized educational materials for each occupation.

Ohio - 1
Ill. - 2
Vir. - 3
W. Vir. - 4
Minn. - 5
Ind. - 6
Maryland - 7
Wash. D.C. - 8

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		TASK STATEMENTS	PERFORMANCE OBJECTIVES	CRITERION REFERENCED	TOOLS, EQUIP., MATL. REQ.	PRACTICAL EXAMS	WRITTEN TESTS	STUDENT COMPETENCY SHEETS	TRANSPARENCIES	TRANSPARENCY ORIGINALS	SLIDES	TEACHER'S GUIDE	LESSON PLANS	PROGRAMMED INSTRUCTION	STUDENT WORKBOOK	AUDIOVISUAL MATERIAL	MATL. FOR DISADVANTAGED	MATL. FOR HANDICAPPED	CAN SHARE	CANNOT SHARE	COPYRIGHT
1. Aeronautical Technology	HAVE	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8			
	NEED																				
2. Architectural Technology	HAVE	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5			
	NEED																				
3. Automotive Technology	HAVE	5	5	5	5	5	5	5	5	5			5	5		1			5		
	NEED	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3			
4. Chemical Technology	HAVE	4	4	4	4	4	4	4	4	4	4										
	NEED																				
5. Civil Technology	HAVE																				
	NEED																				
6. Electrical Technology	HAVE	4	4	4	4	4	4	4	4	4	4	2	2						2		
	NEED		10	10	10	10	10	10	10	10	10	10	6	6	6	6	6	6			
7. Electronics Technology	HAVE	6	6	6	6	6	6	6	6	6	6	2	3						2		
	NEED	10	10	10	10	10	10	10	10	10	10	10	6	6	6	6	6	6			
8. Electro-Mechanical Technology	HAVE	5	5	5	5	5	5	5	5	5	5			5	5				5		
	NEED																				
9. Environmental Control Technology	HAVE																				
	NEED	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6			
0. Industrial Technology	HAVE																				
	NEED	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6			
1. Instrumentation Technology	HAVE																				
	NEED																				
2. Mechanical Technology	HAVE	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6			
	NEED																				
3. Metallurgical Technology	HAVE	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8			
	NEED																				
4. Nuclear Technology	HAVE																				
	NEED																				
5. Petroleum Technology	HAVE	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6			
	NEED																				
5. Welding Technology	HAVE	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7		
	NEED	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6			
7. Mining Engineering Technology	HAVE																				
	NEED	10	10	10	10	10	10	10	10	10	10	10	6	6	6	6	6	6			
	HAVE																				
(CONTINUED)	NEED																				

2) Meg Murphy, NC SLR, reiterated the need for an efficient data retrieval system. She presented a paper on "Creating A NNCCVTE Information Retrieval System for Instructional Materials in Vocational - Technical Education," coauthored with Art Jensen, SC SLR. It is reprinted below.

PROBLEM

Instructional materials are as necessary to an up-to-date educational system as are students and teachers. These materials are in many cases difficult to locate, slow and expensive to develop, and often "if we only could have found them when we needed them" are already available someplace.

We are frequently told how easy they are to locate through such data bank systems as ERIC, Lockheed or Dialog. But, have you ever paid for a computer printout that took a couple of weeks to obtain and found nothing of any real value? Or maybe you have selected something only to find after going to the expense of making that selection, there was something better. Maybe you have even gone to the trouble and expense of developing something yourself only to find that another state had already done that too.

As an SLR, perhaps you have had the same type of requests we have had from teachers or administrators in the field requesting materials "right now" so classes can start properly on schedule. Or a researcher in one of your state institutions has been fortunate enough to obtain a grant and needs materials quickly in order to implement the grant and complete it on time. Sure you can also run a search through other SLR's in the NNCCVTE network. It does turn up some good materials. Basically though it takes a lot of time - the last one I conducted took over three months before suggestions stopped trickling in. The project director was well beyond the point of being able to use the last items uncovered.

Isn't there a better way? That's the purpose of this paper - to explore - a possible procedure that SLR's could greatly benefit by.

A functioning information retrieval system for vocational education is essential to (1) prevent unnecessary duplication of effort in research and instructional materials development, (2) allow educators to quickly locate sources of data and instructional information, and (3) create a bank of knowledge for future consumption. Such a system, if it is functioning appropriately, should:

- be available for almost immediate retrieval services by practitioners.

- contain all available data and instructional information available in the nation that could be applicable to research, instruction or administration.
- be flexible in terms of ability to store information and data.
- be concerned with the needs of the consumer first, the consumer being any one of the total realm of vocational educators, not a previously identified and selected few.

BACKGROUND OF THE PROBLEM

Professionals in the field of Vocational-Technical education encompasses a wide variety of individuals. There are researchers, curriculum and instructional materials developers, administrators, program planners, guidance counselors, teachers, teacher educators, graduate students and perhaps many more. Each has a different need for a retrieval system and therefore has a different concept of what such a system should provide. One desires a very selective search capability, another desires a very comprehensive search. This creates a considerable demand on any system and requires considerable versatility in a system.

The ERIC system with a Clearinghouse for Vocational Technical Education was originally implemented and federally funded to solve some of the problems professionals voiced. The system has served that function in part. There are however, some characteristics that were designed into the system that either limited the system to start with or became less effective as technology advanced.

A. The ERIC System was designed to be selective and evaluative in terms of quality and relevance. This has resulted in:

(1) rejection of 50 to 60 percent of all publications submitted to the Clearinghouse.

(2) establishment of many standards and schedules for determining relevance and quality. Many of these standards appear to be less favorable toward instructional materials than other materials. A study of the ERIC processing manual reveals such things as:

(a) A textbook is not appropriate.[1]

(b) The ERIC Data Processing Manual states, "The ERIC Clearinghouses have responsibility within the network for acquiring the significant educational literature within their particular areas, selecting the highest quality and most relevant material, the processing (i.e., cataloging, indexing, abstracting) of selected items for input to the data base".[2]

The above statement limits retrieval of possible available information to those a classifier classifies as:

(1) significant
(2) highest quality
(3) most relevant

[1]ERIC Data Processing Manual, Educational Resources Information Center, July, 1974, p. 83.
[2]Ibid p. 6.

The unfortunate part of this evaluation is that the review might:

(1) have involved only one subject matter specialist.[3]

(2) due to a monthly allocation (the Clearinghouse for Vocational Education is currently allocated about 40 publications per month) of publications that a clearinghouse submits to Resources In Education (RIE), a publication that is rejected one month when a large number of publications are reviewed might actually be superior in quality to something submitted the following month when limited numbers of publications are reviewed. Publications that are once rejected are not re-reviewed for later entry into the system.

(3) ERIC also has levels of entry into the system. Presently there are three such levels:

Level I. Permission has been granted for EDRS to reproduce in both microfiche and hard copy.

Level II. Permission has been granted for EDRS to reproduce in microfiche only.

Level III. Permission is granted for announcement only. Reproduction by either microfiche or hard copy is not allowed. ERIC highly discourages entry at this level. It limits the monthly allotment a Clearinghouse can enter into RIE of Level III materials to what the manual says is 18%.[4] Conversations with Clearinghouse staff members indicate it may now be even lower and that entry at this level is being discouraged. In fact it does not appear on the current "Request for Reproduction Release" form ERIC uses.

B. The system has endless criteria for acceptance. These criteria are listed in the ERIC Data Processing Manual which every Clearinghouse must abide by. For example, the system has categories for entry into the system.

1. "Most Suitable" for entry into the system are listed as:

Research and Technical Reports Evaluation and Study Reports
Surveys and Statistical Descriptions
- Model Programs/Projects/Installations
- Innovation Practices
- Product Development (R & D)
- Implementation and Dissemination Reports

State-of-the-Art Papers/Reviews
Syntheses
Bibliographies, Discographies

[3]Ibid, p. 80.

[4]Ibid, p. 36.

Filmographies
Conference Proceedings and Papers
Speeches and Presentations
Congressional Hearings/Reports/Documents
Position Papers
Guidelines
- Practical "How to" Guides
- Teacher Guides
- Curriculum Guides

Test, Measurements/Evaluation Instruments"[5]

Instructional materials are not omitted but somewhat slighted from the "Most Suitable" list and from the "Acceptable" list below:

"Standards and regulations
Annual Reports
Personal Policies, Recruitment materials,
Employment Agreements
Fiscal Reports
Data Collection or Survey Instruments
Books (Commercial publications)
Manuals
Directories
Newsletters and Bulletins
Dissertations and Theses"[6]

2. The manual goes on to define other materials as "unsuitable." "The following types of documents are considered unsuitable for RIE. The reasons for unsuitability vary. Journal articles are handled by CIJE. Nonprint materials are out-of-scope for physical reasons, but not necessarily substantive reasons. Flyers, brochures, and other ephemera are considered too transitory and without sufficient subject matter. Bills, news releases, and interim progress reports are generally preliminary in nature and are later superseded by final documents."[7]

Non-print material is eliminated from ERIC by the above statement.

Classroom teachers, on the other hand, continually express a desire for multi-media products of high quality to meet the diverse needs of students enrolled in their classes. The November 1978 issue of the AVA Journal reported that teachers ranked transparencies, 16mm film, filmstrip and cassette, and slide tape presentations as

[5]Ibid, p. 86.
[6]Ibid, p. 89.
[7]Ibid, p. 89

the first four choices in preference and use. All remaining choices received only 15% of the total vote. From this, one can assume transparencies and other media should be an integral part of any curriculum package.

Of specific concern to the Southeastern region State Liaison Representatives (SLR's) and their colleagues responsible for curriculum and instructional materials selection and development, is the fact that only print materials are accepted into the system with no provisions made for the entry into or retrieval from the system of multi-media products of greatest use to the vocational education classroom teacher and teacher educator. The place to enter these would be Level III.

Many pages of the manual are devoted to further limiting acceptance of a publication on such criteria as print quality, color of inks, color of paper, size of paper, photographs, size of print, and other physical characteristics. Some of these characteristics do rightfully limit the ability to reproduce microfiche and then hard copy. Others are features that could be overcome by the use of more up-to-date technology on the part of EDRS.

A publication entitled Writers Guide to Publication Development: How to Get Your Publication into an Information Retrieval System has recently been received. This publication was developed by the National Center for Research in Vocational Education, dated February, 1978.

This publication defines what has to go into a product in order for it to be entered into an information retrieval system as well as to meet requirements of federal and state government sponsors. It is also written to include both research reports and curriculum materials. It is the opinion of the SLR's of the SECCC that:

(a) The guidelines may work well for research reports but they are not at all desirable for instructional materials.

(b) These guidelines defeat the purpose of having an information retrieval system. The concept portrayed by this publication is that only materials put up in this format would be retrievable. Educators, on the other hand, need to know what is available regardless of format. It is the information that is important, not the format.

(c) Much of the information required as 'mandatory' should be included in an abstract that should accompany the instructional materials when submitted to the Clearinghouse, but not necessarily be bound into it. Binding such information into the document should be the option of the developer, not an information retrieval system.

(d) The requirements drawn up in this publication, once again, are the opinions of a few individuals in places far removed from the real place where the 'rubber hits the road'. They represent theory but are not always very practical, economical, or en-

couraging to those who submit the products. Their decisions are in many cases arbitrary opinions based on niceties for a microfiche system but completely inappropriate for education. Broader dissemination can only be hindered by this mandating. Many now refuse to submit materials to these systems. More will now refuse as a result of this.

C. No one knows how much printed material has never been forwarded to a clearinghouse for entry into the ERIC system. It is logical to believe perhaps less than half of what has been produced has been entered. Some reasons educators give for not entering materials are:

1. Lack of information about what can be put into the system.
2. Indifference by some.
3. Fear that copyright status may be lost submitting to the system. This fear is ungrounded.
4. Lack of understanding of what input can do for education.
5. Disgust because items forwarded to the system were not selected.
6. Disgust with the time essential to process materials through the system.
7. Disgust with retrieval results.
8. Disgust with the bureaucracy and regulation of the system.
9. Disgust with the fact that one is not informed of what has not been accepted or why it has not been accepted.
10. Unwillingness or inability to keep up with the requests and correspondence involved when materials are listed in RIE or RIVE (Resources in Vocational Education).

D. In the days of AIM and ARM many of the materials received by the Clearinghouse for Vocational-Technical Education that did not make it into RIE or the ERIC system were still announced in AIM and ARM.

With the demise of these publications and the arrival of RIVE this changed. Only those materials that are entered into RIE are now entered into RIVE. This leaves vocational technical educators with data bank access to probably no more than 25% of the printed instructional material that has been produced across the nation. In addition the system:

1. is limited to printed materials.
2. is exceptionally slow in accessing materials they do receive.
3. usually does not inform a contributor when or why materials are rejected.

SUGGESTED SOLUTION TO THE PROBLEM

ERIC has many faults. It also has more going for us than any other system we have. It is therefore not the purpose of this paper to suggest we disregard ERIC. Far from it. Instead, we should do everything we can to support it.

Change within the ERIC system will be slow and difficult. ERIC has not had an increase in operational budget in a number of years. Technology has changed drastically since it was organized. Yet it has been unable to reflect this in its system. The system has tended to become bogged down with bureaucracy. With all this the authors of this paper feel:

A. We should continue to encourage the entry of all instructional materials into the ERIC system.

B. NNCCVTE should have a standing committee to make recommendations annually to the Clearinghouse for Vocational Technical Education on ways to improve the system. Some immediate suggestions are:

1. Instructional materials should be specifically spelled out as "most suitable" to the system.

2. The "significant, highest quality and most relevant" standard presently should be eliminated so that all materials that are available, have reproduction quality and are not illegal in presentation of subject matter, can be assessed.

3. Non-print materials need to be welcomed to the system. Ways must be found to duplicate some of them when possible. The use of color microfiche might be an answer to duplication of slides and filmstrips. Other materials might be stored on magnetic disc and perhaps many will have to be announced only. The Level III "quota" now utilized by ERIC needs to be banned. Announcement of Level III materials should require such assurance of availability as:
   (a) purchase from a permanent source.
   (b) rental from a permanent source.
   (c) review through inter-library loan.
   (d) availability of a master copy to a state or educational unit with privileges for further duplication.

4. Implementation of ways to speed up access of materials sent through the ERIC system. Contributor abstracting should be one area of consideration for this process.

C. NNCCVTE should do everything in its power to encourage an Informational Retrieval System for both print and non-print instructional media for Vocational-Technical Education.

1. NEED

Such a retrieval system is urgently needed for vocational-technical education. The cost of such media is extremely high. Its creation is very slow, tedious and frequently requires very special technical knowledge. It usually cannot be produced by the classroom teacher and frequently not by the instructional materials developer. Duplication usually requires expensive and sophisticated equipment and facilities.

The present trend toward competency based education, self instructional packages, and concentration on students with individual needs has greatly increased the development of nonprint media. An example of this might be a recently developed automotive repair instructional

program which contains over 7,800 slides and 280 cassettes. Programs of this nature frequently cost in excess of $100,000 to produce and $3 to 5,000 for the purchase of single sets from commercial firms. Yet, for lack of knowledge of availability of such materials, duplicate development is common.

Vocational-technical teachers, school districts, media centers, technical schools, colleges, libraries, CETA training programs, correctional institutions, and industrial training programs are all searching for such materials. Instructional materials developers are searching for such materials upon which to build instructional programs. There is no data base that concentrates on compiling bibliographical listings of such materials solely for vocational-technical education.

2. CRITERIA FOR DEVELOPMENT OF SUCH A SYSTEM

(a) The system should be in the form of a computerized data retrieval base available through such bases as DIALOG (LOCKHEED).

(b) All entries into the data base must be available by one or more of the following means:

(1) purchase from a permanent source

(2) rental from a permanent source

(3) review through a inter-library loan

(4) loan of a master copy for duplication purposes

(5) purchase at cost of a single master copy which states or responsible educational agencies could then duplicate

(6) on microfiche. This might be colored microfiche in case of slides, filmstrips, overhead transparencies.

(7) magnetic disc might well be a format of the future for complete packages of instructional materials.

(8) computer retrieval in case of computerized programs.

(9) supported by construction plans (as in the case of kits of instructional hands-on experiences).

(c) System should include all research, administrative and instructional materials that are of known availability according to the criteria outlined in statement No. b. There should be no attempt to eliminate materials from the data base unless the material is:

(1) not reproducible if duplication rights are granted.

(2) not of visual, audio or other sense oriented quality to be usable in an educational situation.

(3) based on procedures that violate laws of the land.

(d) Basic data for the data base abstract should be provided by the contributor at a time of submission

to the Clearinghouse. (See suggested information gathering sheet.)

(e) Computer printout bibliographic record would be primary form of retrievable information. Colored microfiche could be made available for slide, filmstrip, and overhead transparency format if contributor provides duplication rights. If these rights are provided, the system should do everything possible to provide this form of reproduction.

(f) Magnetic disc storage for a copy availability should be investigated as a potential part of the system.

(g) Data base should be updated weekly. Reviews and abstracts editing should be updated weekly. Reviews and abstract editing should take no longer than 60 days.

(h) Self destruct dates should be available for placement in data base for materials the contributor feels will become dated due to technological change or availability. Serious thought may be given to self destruct, for typical computer searches at least, everything after five years unless renewal is specifically requested.

(i) When non-print media accompanies and supplements print material, announcement should become a part of the print material bibliographical and microfiche record. However, descriptors should be so determined that separate non-print searches for the media would be possible.

D. The development of this system is futuristic. NNCCVTE needs to take steps to promote such a system. In the meantime other stop-gap measures need to be taken. The next two suggestions are such measures.

1. Vocational-Technical materials should stay with ERIC. A less desirable, but possible approach, is to transfer all instructional materials with non-print elements into the NICEM data base. NICEM produces only an abstract and is in the DIALOG vending system. It indicates that it accepts all non-profit materials (and will announce print availability if print is part of the total package) that are available through purchase or rental. Its abstract is contributor generated.

   This system would eliminate all materials available through inter-library loan or by the availability of a master copy through which a state or educational agency might duplicate their own materials. It eliminates instructional materials that are only print oriented. This presents problems but it is conceivable we should have another committee study this approach.

2. Modify the NNCCVTE. This is probably the most easily accomplished in theory but it is non electronic, dependent on human efforts, and subject to extremely limited financial support. To do this the following is required:

(a) Each state SLR should be responsible for:

(1) trying to locate all current instructional materials development available in the state.

(2) report bi-monthly, on standard form, all materials in development along with expected data of completion to the regional CCC.

(3) report bi-monthly on standard form, all materials released along with one copy of the complete material including non-print elements to the regional CCC.

Report should include availability of each set of materials released through purchase, rent or loan from existing agency, and/or reproduction potential by other educational agencies.

(b) Each CCC:

(1) Print on light colored paper a bi-monthly compilation of all materials in progress in the region and forward these to all other SLR's and other appropriate sources such as the Clearinghouse at the National Center for Research in Vocational Education for data entry (if possible) and inclusion in RIVE.

(2) Print on white paper bi-monthly compilation of all materials released in the region and forward these to all other SLR's and other appropriate sources such as the Clearinghouse at the National Center for Research in Vocational Education for data base entry (if possible) and inclusion in RIVE.

(3) Design above two formats for easy filing capabilities so SLR's can set up convenient subject matter file directly from printed quarterly copy without redeveloping information.

(4) File in retrievable form all material received from SLR's in their regions. This material is to be made available for loan to individuals requesting material. Microfiche could then be sold to those desiring such materials for reference purposes. All SLR's should be provided with complete microfiche file for dissemination and diffusion purposes within their own states.

(c) The Clearinghouse at the National Center for Research in Vocational Education should be encouraged to:

(1) announce all materials in RIVE.

(2) enter announcements in data base.

This sounds like a big task, but if each of us dedicates ourselves to the task we can do it and have a far more up-to-date information locator system than anything available to date. True it will take SLR dedication. It will also have to be considered as a system that can take over only until a much more technologically ideal system can be developed. After a period of years the system will get paper logged. However, if we work together we can show a bureaucratic system what can be accomplished. It should give us

the time needed to make the impact necessary to develop the ideal system.

At least two regions are already using similar forms. They are not distributing them bi-monthly, but rather annually. This is not frequent enough. They are binding the forms. This does not lend itself to filing for quick location.

A suggested form is attached. Maybe we need further modification; if so, suggest changes. Using a uniform form, however, is essential in making the system work.

A simple filing system is also essential. The suggested format may only be a start.

Whatever your feelings might be, let's face this issue and overcome. Let's do something.

PROPOSED CODING SYSTEM FOR MEDIA MATERIALS IN A CURRICULUM INFORMATION COLLECTION

With the type of information collection generally maintained in a curriculum center/lab and its primary intended users as well as the limited size staff available for this function, it is desirable to develop a coding system which will satisfy the following requirements, among others:

1. Be rationally related, without too many exceptions, to proven existing systems for classification and retrieval of informational items.
2. Be simple enough that it can be understood by catalogers and users without a course in library science, and be rationally related to classification systems already somewhat familiar to its primary intended users.
3. Be complex and developable enough that it can facilitate an orderly and rather specific shelving and filing system that will accomodate a rather wide range of types of material.
4. Not be directly tied to a coding system that may be subject to change within a few months or a year--e.g., state or USOE course code numbers.
5. Permit the orderly insertion of terminal suffix codes as new descriptors or code designations become necessary--e.g., solar energy, community school, disadvantaged and handicapped. A two/three digit numerical code which is tied to an alphabetical system, such as the ERIC descriptors, cannot accomplish this without very awkward devices which undermine the intelligibility of the coding system. This requirement is far more important in practice than it might seem and should be disregarded only if there is a really overriding necessity.

Keep in mind these important requirements, a number of possible and existing coding systems were studied, focusing especially on a coding system developed by staff at the Wisconsin Vocational Studies Center. This system utilizes prefixes evolved from the USOE Standard Terminology Codes in use since 1971 and suffixes derived from the ERIC Descriptor Group Display. The principal difficulty seemed to be that the ERIC code suffixes did not allow a finer breakdown for shelving and filing that we would seem to need if we took program area codes as the prefix, rather than the Handicapped code, as the Wisconsin system does.

After playing around with several possible systems, some quite outlandish, we at last began to perceive the merits of the Wisconsin system

and a way to adapt it to our requirements with a minimum of distortion of the two basic code systems it blends.

The following pages present the outlines of the proposed coding system which emerged and some of the arguments of the adaptations made.

The proposed coding system for a curriculum collection combines prefixes derived or evolved from the USOE's well-known publication STANDARD TERMINOLOGY OR CURRICULUM AND INSTRUCTION IN LOCAL AND STATE SCHOOL SYSTEMS (1970), Ch. 5, "Classification of Items of Information About Subject-Matter Areas and Cocurricular Activities," numerical indices from the ERIC Descriptor array, and letter suffixes arbitrarily assigned to denote material format.

Use of the proposed codes would result in the following sample code for a specific item.

42.03.34/110.TG	A Teacher Guide for Curriculum Shorthand, Stenographic and Secretarial in the Business and Office Education program area
42.03.34/ 110.TG	Note: The codes could be "stacked" on labels of materials

Explanation of Basic Coding System

*42. The first two-digit code "42." is the Office of Education code for Occupational Education. All materials in this collection will begin with "42." since they and/or their use pertain to occupational education.

*.03 The second two-digit code ".03" indicates the program or subject matter area, and in this example ".03" refers to Business and Office Education.

*.34 The third two-digit code ".34" indicates one of the various specialized aspects and skills of the program or subject matter area, and in this example ".34" refers to Shorthand, Stenographic and Secretarial skills.

**/110 The three-digit code "/110" indicates the particular focus of content in the material. In this example "/110" refers to Curriculum. This three-digit code is derived from the ERIC descriptor group codes.

***.TG The two-letter suffix ".TG" indicates the particular type of format in which the material is produced and in this example ".TG" refers to Teacher Guide.

*Skill Area Codes would be derived from the standard USOE codes for "Classification of Items of Information About Subject-Matter Areas and Cocurricular Activities." These are not course numbers, but a logically-based code for filing information items. Items pertaining to Agriculture in general would carry 42. (Vocational Education) plus only the two-digit code "01." Items pertaining to Agricultural Production would carry the six-digit code "42.01.01," etc.

Rationale for Coding System

It should be noted that this is not a course-numbering system, and that it was not primarily designed as a library coding system, as it would be quite incomplete as the latter without some supplementary codes. Information specialists have realized for some time that a dual coding system for courses and for information items is necessary because the organization of the course structure is subject to variations, often quite radical, for good reasons--but if the coding for the information storage and retrieval system was closely tied to the course codes, this could result in the necessity of overhauling the information system to keep up with course changes. Moreover, the species and subtypes of information do not coincide very well with the species and subtypes of the curriculum offerings.

Moreover, it has been quite widely recognized that such standard library coding systems as the Dewey Decimal, admirable as they may be for their logical structure, become unwieldy for users in a situation where it is practically impossible to maintain the elaborate cataloging, accessioning, and cross-indexing systems used in well-staffed libraries. In such systems, the very extensive card catalog developed by the staff saves the user from the need for more than a sketchy understanding of the coding system, and of the translation of what can become very lengthy decimal codes in very specialized collections.

In a Curriculum Materials collection such as a curriculum center or lab maintains, the card catalog based on the decimal code is also impractical because most commonly, the users are seeking information on one or a combination of more or less specific subjects, often pertaining to a specific program area--rather than having the author or title in hand. Moreover, however well-trained, a curriculum center staff is generally far too small to keep up the elaborate and systematic cataloging procedures used in standard libraries.

**Topic/Content Codes would be derived from the three-digit numerical codes for the ERIC descriptor groups. These are alphabetically, not logically based. The difficulty of inserting and/or isolating terms may necessitate a combination three-digit and three-four letter code. Example, "140EdP" would stand for Educational Problems, and Educational Program - all five of which are topics included in the 140 array for Education.

***Codes for Types of Materials (Physical description, categories based on objectives) - In addition, a separate set of two-three letter codes would designate the physical type or other categorization of the materials and indicate whether or not they were part of a set of correlated materials. The first step in establishing these suffix codes was to list (as far as possible) the varying formats in which such materials are produced. The formats were then sorted into two discrete categories: Print and Non-Print (multi media). The code letters were derived from the first letter of each work in the format heading (for example, Curriculum Guide - CG) or the first three letters (example, Simulation - SIM). Variations occur in headings for which other symbols are generally recognizable (example, 16 millimeter - 16m). Sample code for specific item:

42.01.01 -A manual on adult
140 Adu education in Agriculture
Man Production.

Rationale for Coding System (Continued)

For this reason, it has been apparent for some time that a coding system based on program prefixes and a rather elaborate but not unfamiliar system of subject suffixes would come nearest to filling the bill for a coding system that would not require massive effort and elaborate training to understanding and to maintain and use.

The first step in the adaptation was to analyze the basic curriculum area codes of the STANDARD TERMINOLOGY FOR CURRICULUM AND INSTRUCTION IN LOCAL AND STATE SCHOOL SYSTEMS book to see which would need to be retained and which added or altered for the proposed system. It turned out that the basic codes were fairly easy to adapt and supplement.

The chief problem with using the ERIC Descriptors is that they are alphabetical and not logical in construction, so it becomes difficult to insert terms. The problem can be solved if instead of typing numerical codes to the descriptors we use three-letter alphabetical suffixes. In cases where there might be a long list of similar terms, the three letter suffixes could have a numerical suffix attached (Chi-1) to separate the suffix group. This would allow the interpolation of an indefinite number of suffixes between any two existing suffixes, in the proper alphabetical order.

The principal problem with alphabetical codes, as opposed to logically-based codes, is that similar or related materials may be shelved or filed in widely separate locations. Compensating for this, however, is the relative simplicity of cataloging and filing with alphabetically-based codes. The only major argument against using alphabetical suffixes instead of two or three-digit numerical suffixes is that alphabetical codes are more difficult to computerize.

However, since the only alphabetical component of the code in this case is the terminal suffix, it should be possible to convert this to a pair of double-digit numbers, if necessary.

The advantages of this classification system are evident: It would shelve or file materials by program areas, yet would permit indefinite differentiation of the subgroups in an orderly fashion, correlated with two well-understood existing systems of information coding. The codes are relatively brief, minimizing the chances of filing or shelving errors, thus, counteracting the disadvantages of the divergent locations of related materials.

IV. Regional Meetings

Each region met to discuss the earlier presentation, to recommend priorities from the region for future planning for the Network, and to decide upon which areas the NCRVE could best assist the region. The Regional Meeting Activity Worksheet and results follow:

Question 1. Review and make recommendations on instrument for curriculum availability.

Recommendations:

▶ Northeast Network - recommends the adoption of the basic form used to describe the 1979 display materials with modifications as deemed necessary.

▶East Central Network

a. ERIC be expanded to include recommendation of paper presented to SLRs

b. Funding for computerized system available to each SLR

c. Use instrument developed by ECCMC to semiannually update SLRs.

This is the best thing we have now and could serve in place of computer capability if kept up by all SLRs. May be more prudent to enlarge existing system rather than develop another.

Question 2. Select the two top priorities from the region for consideration by the center directors for their use in planning the future direction of the curriculum network.

Recommended Priorities:

▶Northeast Network - Whatever mechanisms that are required the goal should produce quick turn around time for the delivery of materials to the user.

▶East Central Network

a. Better sharing among regions. Many states never share with states outside their region. The CCC's don't have funds to buy/duplicate all the material they get in only one copy.

b. Inservice on new CBE products.

c. Consistent criteria for impact from USOE so we know what to collect--like ECNCC's Impact Pad.

Question 3. List the two top areas with which we need help from the National Center for Vocational Education.

Recommendations:

▶Northeast Network

a. The primary help we need from the National Center is willingness to acknowledge Network importance in national testimony.

b. The provision of speakers on projects, programs and concepts of current interest for regional and concurrent meetings.

▶East Central Network

a. National survey help to determine curriculum available by components listed on ECNCC instrument.

b. System to help keep data from survey current (See 1a & 1b).

c. Inservice on products developed.

d. Input to product review and selection.

e. Continue and refine military material project.

Responses from the other regions were not received at the time of this publication's printing.

V. General Session

"Cognitive Mapping with Implications for Curriculum Development"

by James Orr, Director,
Learning Lab,
Oakland Community College,
Farmington, Michigan

Cognitive style mapping is a new education concept of mapping how people learn. A paper defining the concept and outlining the history follows. Orr divided the session into three small groups to discuss the concept and its implications for curriculum development. Each participant was mapped to ascertain their own learning style and these results were explained. Orr was assisted by members of the Graduate Leadership Development Program in Vocational Education, Auburn University, Auburn, AL.

Cognitive Style Mapping Defined:

The late Dr. Joseph Hill, president of Oakland Community College in Bloomfield Hills, Michigan, wrote a paper titled, "The Educational Sciences," in 1971 which describes a conceptual framework for the applied field of knowledge called education.

The education sciences concept has the potential for providing the precision needed to meet the challenge of individual student differences in a constructive manner. At the heart of the educational science concept is cognitive style mapping. By mapping how an individual prefers to learn, a teacher can key materials and methods to students' cognitive style differences, thus facilitating learning and at the same time capitalizing on the unique individual differences from which many of our scientific and social advances originate.

Specifically, an individual's cognitive style map may reveal personal preferences relating to information intake (e.g., reading, listening, observing, etc.), personal preferences relating to how decisions are reached (e.g., personal reflection, discussion with family, or discussion with friends or peers), and personal reasoning tendencies (e.g., by seeing relationships, by seeing differences, by categorization, by deduction or by a combination of these). Simply stated, an individual's cognitive style is determined by the way he or she presently prefers to receive information, process information, and draw conclusions from information. When the individual's style is identified a system of presenting information and its progression can be prescribed.

The cognitive map is similar to a road map in that it depicts numerous routes that may be traveled to reach a learning goal. There are many paths to take in attaining a particular learning goal. It is the best path for each unique student that we seek when we look at his or her learning style. Some paths look ideal on the map but after they have been traveled experience reveals they are inappropriate. This can be due to the inaccuracy of the style map, inexpertise in reading the style map, or inability to use the information gained about the student to build a learning environment.

A gross misuse of the cognitive map would be to use it as a predictive instrument for making decisions in order to limit or to manipulate the student.

Implications for Vocational Curriculum Development

Curriculum materials in general tend to favor the students who are good readers and have high theoretical ability. Students with significantly different cognitive styles are often discriminated against if their curriculum needs are ignored in developing curriculum priorities. Their needs may require additional economic considerations. However, if more emphasis were placed on developing curriculum materials for use by students with differing cognitive styles, it would facilitate the process of creating a match between the learning environment and each student. For example, some students do not fully understand concepts until they have been provided an opportunity to verbalize about the new ideas in class discussions, small groups or similar situations. Other students may need to write down the concepts and refer to them before they fully understand a new idea.

Students are frequently counseled to enroll in vocational courses who are perceived to be high in motor skills and low in theoretical reasoning. They learn new concepts better when they can manipulate the actual objects or models. Theoretical explanations have little meaning for these students until they have had an opportunity to practice some of the skills involved and are then led to the theoretical basis of the skills. They are then able to complete the new tasks with very few questions.

On the other hand, students in vocational courses, with high theoretical understanding and low motor skills tend to want all of the explanations on how to perform a task before starting and to ask the teacher many questions while performing the task. These students are often able to explain how to do the task much better than they are able to demonstrate the task.

Curriculum design should be sufficiently flexible to allow for a variety of teaching methods for accomodating different cognitive styles. For instance, a student should be able to exit from the mainstream of the curriculum package for enrichment or remediation and return whenever appropriate. In addition, students who learn intuitively should be permitted to branch out from programmed or highly structured curriculum materials, thus helping to prevent boredom and for the further unnecessary repetition.

Implications for Vocational Curriculum for Special Needs Students

Success in teaching disadvantaged and handicapped students in vocational education requires that the teacher carefully plan the learning environment or climate. The environment must be flexible in order to accomodate the unique cognitive style of each student. The objective is to insure that learning is both efficient and effective. Matching the learning environment with the cognitive style of the special needs student is extremely important because these students generally lack the ability to adapt to the instructor's teaching style. It is conceivable that the student's lack of adaptive abilities is a major cause of the student's learning problems.

Three benefits of mapping students' cognitive styles are immediately apparent. First, the student can gain essential knowledge and skills on how he or she learns best. Second, the learning effectiveness of the student can be augmented by using his cognitive style strengths as a mode for alleviating cognitive style weaknesses. For example, if a student learns best by touching and examining, this process can precede theoretical explanations by the instructor. This procedure would give

the student a foundation on which to build abstract concepts. Third, the cognitive styles of a class can be charted to provide a profile of the entire group thus enabling the teacher to select, adapt or develop a learning environment appropriate for the class with provisions made for each student's unique cognitive style.

Implications for Vocational Counseling

Current career counseling inventory instruments tend to supply a list of careers in which a person may be successful. By supplementing the process with cognitive style mapping, occupations could be identified in which the student could find both success and fulfillment. Although exceptions do exist, people generally prefer occupations that are congruent with their cognitive strengths.

Cognitive style mapping may add a new dimension of increased precision to the counseling process by creating a better match between occupational demands and a student's preferred work style. This would in effect place the process of counseling in Maslow's realm of self actualization thus addressing what is considered the highest level of human needs satisfaction.

Job satisfaction in the future may well be centered on multiple occupation training for each student rather than the still common single occupational emphasis. Creating career alternatives may be a big step in eliminating work frustration, boredom, and the general "trapped" feeling that many workers experience. It is probable that a person may have several different occupations throughout his or her lifetime.

Implications for Vocational Testing

Ideally, a test should coincide with the actual task that has been learned. If the task involves manipulative skills, a manipulative test should be devised, rather than a pencil and paper test. Students can perform tasks without being able to explain them and vice versa. Even the type of test used to evaluate knowledge can predetermine how the students will score. For example, the person who is adept at identifying relationships will probably do better on an essay test than on a true-false test covering the same material. People who have a broader cognitive style may do equally well on essay and objective type tests. Students with extreme differences in learning styles needed to be given different types of tests in order to accurately measure learning.

Cautions

A caution that needs to be emphasized is that there are no such things as good maps and bad maps, but only different maps. There is a tendency to place a value judgement on people who are high in the theoretical and encourage them to go to college. However, we have no defensible basis for determining that one type of style is better than any other.

Teachers need to question the impact of imposing his or her cognitive style on the students during the teaching process. Unless the teaching style is broad enough to fit the needs of the entire class, there may be a tendency to try to make students learn the way the teacher learns best. Teachers should augment their styles by studying the style of the students. They should consider the addition of methods that will enhance the potential for students, even if they find difficulty in modifying their preferred way of teaching. Narrow teaching strategies may fail to meet the learning needs of students.

Conclusion

Although more research is needed, cognitive style mapping suggests immediate applications that can improve the day-to-day instructional process. Time, space, learning materials, activities and teaching styles are but a few of the items that can be varied to meet the learning needs of each student.

The challenge that cognitive style mapping presents is to put together the proper mix of curriculum materials, methods and procedures that will insure optimum learning for each student. This does not mean that a student is always taught in consonance with areas of strength for it is important to discover the student's learning style limitations and develop programs enabling students to develop the cognitive traits they may lack. In this way students will acquire greater functional independence. Successful students in school, then, will be not only those students who may have adaptive abilities that match the often hidden demands being placed on them by the teaching style, but success will be more broadly defined and truly possible for all.

VI. Conference Luncheon Report

"What Industry Expects of Vocational Graduates"
by David Grimes, Industry Manager, Southwestern Bell Telephone.

After a baffling magic trick, Grimes outlined the top qualities business wants in their new employees. These qualities include personality, planning, initiative, competence, organization, enthusiasm and teaching ability. He said the role of the instructor is to instill into students the idea that these qualities are vital to their livelihood. Curriculum should stress dependability, positive attitudes, and communication skills. Vocational curriculum should correspond to the business world and vocational educators should communicate with businesses in order to make classes relevant to the business world.

VII. Vocational Education Specialist (VECS) Program

by Jack Hamilton, VECS Project Director, American Institutes for Research

The U.S. Office of Education has contracted with the American Institutes of Research (AIR) of Palo Alto, Calif., to field test and disseminate materials designed to help vocational educators acquire curriculum-building skills.

Known as vocational education curriculum specialist (VECS) materials, these individual study workbooks have already been developed by AIR and Washington State University. They come in several modules, some designed for those with vocational skills but no background in vocational education, the rest for persons who want to refine their skills in curriculum management.

Something for Everyone

For those with no curriculum experience, there are five "introductory" modules. These describe the scope of vocational education; the

legislative mandate for vocational education; current priorities for special target groups, such as women, minorities, and handicapped persons; the federal and state mechanisms that support vocational education; and the roles of vocational educators in curriculum management.

Those with previous experience have 12 modules to choose from for help in upgrading specific skills. These 12 are grouped into four basic areas: individualizing instruction, designing and developing curriculums, evaluating students' achievement, and managing vocational programs.

The modules that deal with curriculum design and development, for example, cover such topics as selecting the most appropriate instructional approach to match students' education levels and to fit into various types of organizational settings; developing curriculum goals and objectives; developing instructional strategies and curriculum units; and preparing instructional materials.

Each module was designed on the basis of a survey that asked experienced vocational instructors and curriculum specialists to rate the most important specific skills needed by people who had to design curriculums. The contents of each module also stress the need to identify specific skills that vocational students should acquire. In this sense, the modules take a clear competency-based approach.

Objectives and Products

The current project has three major objectives.

1. To determine the effectiveness of the VECS materials by field testing them at sites representing a wide range of teacher education activities.
2. To identify and develop organizational arrangements for how the VECS modules can be used in these various teacher education activities.
3. To encourage teachers to use the field-tested VECS materials.

The first phase of the effort began in October 1978 and will conclude this October. Existing materials are being integrated, reviewed, and prepared for systematic field testing to assess their effectiveness in a wide variety of settings.

This fall, during the second phase, VECS materials will be field tested at the sites identified during the first phase. The findings from the field test will be submitted to the HEW Education Division's Joint Dissemination Review Panel to obtain the panel's approval to carry out a national dissemination of the VECS materials.

Field test sites which have been identified are, according to region: Western - California State University, Sacramento; Northwest - University of Idaho and Washington State University at Pullman; Midwest - East Texas State University, Texas A & M, Central State University (OK), and Oklahoma University at Stillwater; East Central - Southern Illinois University at Carbondale, Macomb County Community College, Detroit, and Virginia Polytechnic Institute; Northeast - College of Technology at Utica-Rome, NY, and Jersey State College; Southeast - University of Southern Florida at Tampa, North Carolina State University, and University of North Carolina at Greensboro.

Starting in October 1980, the field-tested and approved VECS materials will be disseminated at four regional workshops held to familiarize potential users with the materials and the various ways they can be implemented. Technical assistance will be provided to a limited number of institutions planning to use the materials.

A final product will be a booklet describing alternate organizational arrangements for using the VECS materials. This booklet will be developed to help vocational teacher educators and vocational educators determine the most effective method of adopting or adapting the materials for use in their own settings. The modules could possibly be used in higher education institutions (graduate and undergraduate); community colleges; inservice programs sponsored by state departments of education; vocational schools; local education agencies; and non-traditional settings such as inservice courses targeted for instructional personnel in CETA training programs.

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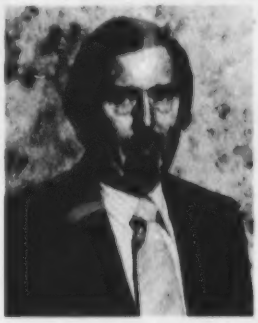

VIII. Mini-Sessions

A. "Curriculum for Apprenticeship Programs"
by Steve Bishopp, Director,
Washington State Apprenticeship Program.

When an employer wants an apprentice, he/she must submit Plant Apprenticeship Program Standards which must be approved by the Washington State Apprenticeship and Training Council. The state of Washington has developed a set of 11 general information related instruction packets, which can be mailed and used on an individual basis. These packets can be used in isolated areas, much like a correspondence school. Each packet has instructional material for the apprentice and the employer. A twelfth packet, "Fire and Life Safety" has an extra set of material for the local fire chief. The State Fire Marshall has authorized all fire chiefs to help apprentices and employers in this area. Each month the apprentice turns in a report with employer sign-offs for time spent and tasks completed.

The general information packets include:

1. Introductory Information - where, how, etc.
2. Industrial First Aid - coordinated with the State Department of Labor in which the apprentice must enroll.
3. Fire and Life Safety - how to spot fire hazards, how fire alarm systems work, etc.

4. Legislation Effecting the Worker - contains pamphlets on industrial insurance, unemployment insurance, OSHA, and others.

5. Industrial Health - relates to the individual.

6. Safety Training

7. Alcoholism - what happens with alcohol abuse, when is a person an alcoholic, etc.

8. Apprenticeship - basic manual from D.O.L. and others.

9. Interpersonal Relationships - 80% of the persons fired from a job are fired because they can't get along.

10. Telephone Courtesy

11. Customer Relationships

12. Employer - Employee Relationships

They also have technical information packets to assist students in their search for information.

3. "A Strategy for Energy-Related Occupations and Career Choices"
by Louis Iozzi, Director,
Division of Science and Society,
Rutgers, The State University, NJ.

The purpose of this grant from the New Jersey Department of Education, Division of Vocational Education, is threefold:

1. to develop a directory of energy-related occupations and state educational programs;

2. to develop a curriculum plan to implement use of the directory within existing high school vocational guidance courses; and

3. to establish a model energy career resource center.

Work has concentrated on the directory which is central to the project. The directory, entitled "The Energy Occupational Outlook Handbook," is designed to also serve as the basis for the curriculum in energy occupations by providing strategies for surveying energy careers, selecting suitable careers, and planning ahead for career entry. The accompanying flow-sheet diagrams the format of the handbook. This flowsheet was developed to universally apply to other careers and is a valuable project spin-off. Formulation of the directory section of the handbook, which is used by students to

survey energy occupations, has concentrated on defining both energy fields and occupations. The handbook also defines which occupations fit the energy fields. This allows flexibility in student access to directory information and fits well with the scheme of selection. Selection involves a self-evaluation strategy which aids the student in defining his/her personal characteristics. This is then keyed into the scheme of fields and occupations which, in effect, narrows the student's range of choice. Finally a strategy for career planning is presented, accompanied by detailed educational and employment information to aid in job or training selection.

Information in the career planning section of the handbook can be pursued by using materials from the resource center. The efforts of the staff have been to collect materials that are available at little cost or free of charge. Many of these materials are listed in the handbook. This will allow the school staff to develop their own resource center which is complementary to the handbook and will also allow students to pursue independent career investigation at little expense.

C. "Adaptation of Curriculum Materials"
by Verdel Jackson, AL SLR

Jackson said he came out of graduate school in Auburn with a sophisticated curriculum model. Now, however, he has replaced the model with an emphasis on a simple system of levels.

The first level is the teacher level. Cutting and pasting and ripping useful material out of books is used. After getting materials from other states, they hold local workshops and cut and add to these materials to meet local needs. They get quick results (products), high motivation and teacher intuition. The booklet, "It Happens When We Get There," describes this process.

The second level is the community level. They work with local school boards which decide what will be taught. Local school boards have rearranged local programs to include basic survival skills as the first priority. College prep is second priority.

The third level is interstate/intrastate. They use a series of seven booklets reprinted from the Northwestern Curriculum Management Center which includes: (1)Developing Advisory Committees, (2)Determining Needs, (3)Conducting Occupational and Task Analysis, (4)Developing Learning Experiences, (5)Developing Performance Objectives, (6)Conducting Field Testing and Evaluation, and (7)Implementing Curriculum.

Jackson also shared the following materials:

"Model for Curriculum Adaptation" from the Northwestern Curriculum Management Center, "Adapting Curriculums to Local Needs" by Jim Wall, "Curriculum Adaptations" by Francis McDonough and "Alternative Strategies for Delivery of Vocational Education to Rural Schools" from the Alaska Department of Education.

D. "Legislation on CETA and Curriculum Impact"
by Cloyce Bannister-Metzler, Assistant Supervisor, C.E.T.A., Colorado Board of Community Colleges and Occupational Education

Bannister-Metzler handles Title II (6%) Governor's CETA Funds for skill training. The outcome: CETA gets training programs and education gets the students. Colorado receives $89 million in CETA funds. Bannister-Metzler presented the following observations on CETA needs.

1. Open entry/open exit curriculum. A need recognized by the D.O.C. CETA clients are in need of immediate help and if they must wait to enter a program for which they receive minimum wages, they usually take a menial job. This will cause them to become ineligible for CETA training, before the training program begins.

2. Need self paced materials and a systematic recordkeeping process to facilitate #1.

3. Logical "stop off" points. CETA clients need different levels of training for entry level skills (options).

4. Also, open entry/open exit programs are needed in community college systems.

5. Short term intensive programs, e.g. 6 hours and 5-6 days per week. Some find that they can get by cheaper by contracting with private schools because private schools get CETA clients in and out quickly; therefore, the CETA clients get off the stipend (min. wages) even though private school programs are usually more expensive.

6. Ability to respond quickly to need for new curriculum.

7. Specific rather than general curriculum.

8. Continued evaluation of curriculum effectiveness, follow-up students after they leave the program.

9. A systematic program for women entering nontraditional jobs. Assisting them to survive by giving some assertiveness training and developing some coping skills. In general, give them some psychological support.
10. A system to help CETA clients see CETA as a viable option for them.

11. Develop job attitudes. Assist clients to develop acceptable interpersonal and attitudual skills to cope with personal problems.

12. Need non English speaking materials. English as Second Language Materials based on occupational materials and bilingual voc ed materials. Why not teach skill training to clients on language and use occupational materials to teach ESL.

Final statement, "You have probably observed that some of these needs are broader than CETA."

IX. General Session

A. "Research Into, Out of, and Around Practice: The Perilous Case of Sex Fairness in Curriculum Development and Evaluation"
by Lois-ellin Datta, Acting Associate Director, Program on Teaching and Learning, National Institute of Education

Congress expects considerable changes in some aspects of vocational education as a result of the 16 provisions for sex fair education in the 1976 legislation. These provisions arose from extremely specific data on the distributions of men and women enrolled in occupational areas such as office skills, home economics, and the skilled trades. It is not implausible that since the case for the legislation was made on these data, it is on changes in these distributions that Congressional views of the responsiveness of vocational education also will be made--or lost.

To a certain extent, the case of sex fairness in vocational education is perilous. First, there isn't much information about the reasons for the occupationally segregated distributions. For example, how many people had interests in non-stereotyped occupations but were barred by discriminatory practices from enrollment? This would be the most reasonable group to expect to show swift changes as a result of the provisions. Second, there isn't much information about how effective different methods might be to encourage those not beating down the doors at present to enroll in non-traditional occupations. Thus, there is no way to project what reasonable expectations might be for the size and swiftness of increases in non-traditional enrollment over and above the first group of persons. Third, what research there is points to early

socialization of interests, particularly in the junior high school period through non-school recreational interests. If these data are reliable, changes are likely to be slow and reflect gradual shifts in society possibly requiring special attention in the late elementary and junior high school period.

The sex fairness provisions thus are something like a national development program: the goals are laudable but we don't know exactly how to get there nor how quickly discernable changes in enrollments are possible. In such a situation, it may be more important than ever to document efforts: what was done and what happened in training, technical assistance and in evaluations as well as curriculum development. We may need also to involve professionals from other disciplines who are knowledgable about attitude changes as well as vocational educators skilled in curriculum development. Such an approach may help transform a perilous case indeed to one where vocational educators recognize and celebrate the developmental nature of the law.

B. "Curriculum As A Change Agent"
by Norm Singer,
National Center for
Research in Vocational Education.

Singer used an interactive technique in conducting this session, called a "Frame Game." This frame game was called "Group Grope," and takes six steps to complete.

Step 1 Take four index cards and make four brief, direct statements, either positive or negative, of an opinion you hold or think others might hold on the subject of vocational/technical curriculum as a tool for change.

Step 2 Mix and redistribute the opinion cards. Each person takes three and prioritizes according to personal opinion. No talking is allowed during this step.

Step 3 Exchange cards with extra cards on a table to improve the set of three.

Step 4 Walk around, compare hands, and exchange cards one for one with others to further improve hand.

Step 5 Compare cards with others. Form coalitions with others whose ideas are similar. After forming a group, select three cards which are acceptable to all.

Step 6 Study the three cards then write a statement summarizing the ideas on the three cards. The groups should select a team name reflecting their position. A representative should report to the entire group.

C. "RCU Report"
by Ronald D. McCage, Manager,
Research and Development,
Department of Adult, Vocational
and Technical Education,
Illinois Board of Education.

McCage discussed the AVA Policy Study which he feels is important in terms of program improvement and supportive services activities. AVA is trying to identify the problems related to issues regarding the vocational education legislation.

AVA has organized seven committees to look at policies related to reauthorization of vocational education legislation. People talk about the "new" legislation but we're in 1982 in terms of looking at the future of vocational education legislation. He said we had better start talking about "future" legislation in terms of the "new" legislation rather than the 1976 amendments, because that's where we are in time. The seven committees are:

1. Basis for Federal Investment in Vocational Education - Gordon Swanson.

2. Basic State Grants - Gene Larriman

   a. Special Population Subcommittee - includes more than handicapped and disadvantaged and limited English speaking, such as the displaced homemakers and displaced workers. The question is should the legislation provide for this within federal laws.

   b. Youth and Adults category - trends toward older society in terms of age.

3. Planning and Evaluations - Chuck Hopkins.

4. Financing Vocational Education - Allen Woodruff

5. Administration of Vocational Education - Bill Rich

6. Consumer and Homemaking - Eileen Croft

7. Programs of State and National Improvement - Ron McCage

Processwise they're doing two things:

1. Met three times as task force leaders to zero in on major overriding issues.

   - each committee meets two to three times between now and the end of October.

   - McCage's presentation will appear in the Insider.

   - soliciting individual or group input to decide major policy basis for legislation.

   The task is to identify and present to AVA major policy issues. There will be a 20 page document from each committee to be presented at the AVA Conference. Presentation and feedback format will be analyzed into a final paper to AVA in January, 1980. AVA will then hire a writer to construct legislation in the form decided upon.

2. Gene Bottoms is trying to pull in junior college leadership and guidance leadership. Hopefully we can go to Capitol Hill with one or two bills that represent everyone's interest instead of competing against each other. There were five different bills from Voc Ed. This is one of the major problems Congress has - we don't have our act together when we present to them. By starting this early, we hope to have our act together and what we present will be representative of the whole group and not just one portion of it.

Some major overriding issues are:

1. How does vocational education tie to economic development? Economic development has become an international issue in terms of governmental policy.

2. Leadership in Washington is looking at human resource development and realizing that a major part of that has to be education and training. People at those policy levels are asking seriously if a preventive model or a remedial model of education and training is the best approach. They are looking for data and support for the idea of the preventive or voc ed (manpower/CETA) approach. They are asking not only for placement data, but for information as to whether vocational education really makes the student stay in high school. If that can be shown, it will make a difference in HEW.

3. There is a question as to the effectiveness of voc ed; the general basic support versus targeted support, and perspective legislation versus liberal legislation. Other issues are: should the legislation be state oriented or people oriented; there are inadequate dollars to drive Federal mandates that are in the legislation causing nonparticipation in the field because it's not worth the trouble to meet the requirements for the limited funds available; and our ability to convince Congress.

4. The future relevance of voc ed related to adult populations, post secondary, etc., includes everything now under Subpart 3 of the states' title and Subpart 2 of the Federal title. Some preliminary issues are:

   a. State functions - The current legislation is being criticized about the internal administrative mandates relative to the RCU who does the dissemination.

   b. The 80-20 split set aside in Subpart 2 is an issue. It is not so much if it's 80-20, but whether it should be split at all. The question is, if you want to research exemplary curriculum, is it necessary to set it aside and specify a level of funding or do you make an assumption that it will happen anyway if you provide the money which they can apply to any level. The state directors tend to see the 20 as a minimum instead of an absolute 80-20. We are under the 20 right now. The 112 million, representing about 19.2%, has been frozen. Given the 779 million or 100 million increase for next year, Subpart 3 will not go up. It is being held at 112.

   c. Another issue is the question of the 20% set aside for guidance. Should guidance be in the program improvement part of the legislation? If funds are applied on a developmental context for curriculum or personnel development, there is the school of thought that it should stay in program improvement. If the funds are applied as services to people, then the school of thought is that it is in the wrong part of the legislation.

5. The contract mandate for research, exemplary curriculum, etc., to be coordinated by the RCU is a major issue. The intent was coordination but there was an adverse effect in some states. If the issue of coordination should remain, some feel the term RCU is antiquated because of what the legislation states an RCU should be. The point is that items are put into the legislation with good intentions without looking at the possible consequences. For example, most people were supportive when contracts wanted an accountable system for producing products and services. They did not want Federal Rules and Regulations to dictate how the states did their contracts. So the intent was to tighten accountability but the result was the lay-on of Federal Procurement Regs for contracts. So when we make suggestions on issues, be sure to examine the possible consequences.

6. Most agree that we should provide impact data, should be accountable for program improvement and supportive services, however the present statement in the legislation is inadequate for a number of reasons. For example, who knows what reasonable probability is, who knows what a substantial number of classrooms is, who knows what a learning situation is, etc. The feeling is that the five year time frame is a bit out of

line, given the fact that most change takes 15-30 years to bring about. It is totally out of line when it's applied to research. The issue is applied research and development, curriculum development, etc., which is implied in the legislation, versus university personnel's push back to basic research. We have swung from both ends and would like to get back somewhere in between.

7. Another major issue is consolidation of language in the legislation. For example, if you take Part C of the 1968 Amendments or Section 131 of the current ammendments and interpret it broadly enough, you can do everything under those sections that the rest of Subpart 3 provides for. It says applied research, it says exemplary, it says curriculum development, it says training of personnel - all in those sections. The problem is that we have been super-narrow in interpreting and implementing much of the legislation in the past.

The Federal level issues are mostly the same:

1. The role and function of the Federal government in relation to research and development - what thrust should they be making.

2. The role and function of the National Center.

3. The role and function of the National Network - if it's to be written specifically into the legislation, if so how and what issues should be addressed.

4. Personnel Development/Impact/Grants versus Contracts.

The area of program improvement, more broadly defined, is (probably) the wave of future vocational education legislation. There is a feeling that we could be doing dozens of things with program improvement, such as staff development, in methods we haven't dreamed of, providing a more extensive system of paying for implementation, diffusion, etc., and provisions for purchasing A-V material. In other words, the message to the committee is to dream.

McCage's basic issue with the committee is to ask if we should simply fine tune what we have or do we look at this area of program improvement and supportive services in the total context from research through curriculum development through dissemination. But if we want to talk about program improvement and concepts, we must write as a force, although it's only about 500 people, because we can't achieve separately what we could collectively.

D. "Concurrent Meeting Summary"
by G. Earl Hay, NY SLR

Hay reiterated the theme of "Operation Outreach" and stressed that it is an ongoing activity, not just a one time affair. The logo of six circles representing the Network connected by lines should be 3-D in order to represent all the other activities of the

Network. This would also show our much closer linkage with the National Center and the greater connection and constant concern provided by U.S.O.E.

Hay presented a history of the concurrent meetings starting with the first one in Carbondale. 30-35 states were represented at that meeting. It is a testimony to the Network that there is much greater representation at the regional meetings and at this meeting.

In the past there was disagreement about the structure of the meeting. This year there was more of a participatory effort as there was a committee composed of representatives of all the regions who helped set up the conference.

-The reception, or social event, was planned to reacquaint old friends and to meet new ones.

-The welcoming activity involved the local people.

-The future look as presented by Marv Feldman was of a challenging nature and gave us food for thought.

-The regions presented concrete accomplishments and not just hopes and aspirations.

-Mary Marks' update was an important part of the program.

-The NCRVE was a more active participant than they were in the past.

-The regional meetings had always been at the end of the program before and consequently they lost people. By placing them in the middle, we hoped to get more interaction.

-Jim Orr provided us with better insight into learning methods with his presentation on "Cognitive Style Mapping."

-We're all concerned about who will take our place and in describing the VECS program, Jack Hamilton told us about a method of cloning. If we're not involved in field-testing then we're shirking our duty.

-The Mini Sessions gave us a choice with privilege. It was intentional that there were more choices than people could attend so that each person could choose the most relevant to them.

-Mary Marks brought something extra and very worthwhile in the film, "A Different Approach." This film on the handicapped will be available in all states.

-The business of sex equity gives us a new meter stick by which to measure programs. Lois-ellin Datta gave us insights as to what legislators are looking for and what will make an impact on them to perpetuate our activities.

-The game Norm Singer brought should help us all with workshops. This technique is a non-threatening way to bring up some important issues.

In discussing legislative issues, Ron McCage provided an opportunity for input to AVA.

The most important thing the conference provided was the opportunity for interaction. Hay summed up by saying that from the initiation of the program by U.S.O.E. to the activities we have now - We've come a long way, Baby!

E. "Conference Evaluation"
by James Shill, Director,
Southeast Curriculum Coordination Center

Shill disseminated the following evaluation form. Tabulations of only SLRs are included to give a more realistic idea of their feelings.

DIRECTIONS

For classification purposes, please check (x) the appropriate spaces below.

Role	Network Affiliation
_____ SLR	_____ Northweast
_____ Other	_____ East Central
	_____ Southeast
	_____ Midwest
	_____ Northwestern
	_____ Western
	_____ Other

Carefully read and evaluate each statement and circle the rating that most nearly expresses your opinion of the statement. Each statement has dual response categories--Perceived Importance and Perceived Utility.

Perceived Importance: This response category relates to your opinion of program structure, e.g. Did the content in each session warrant inclusion in this conference?

Perceived Utility: This response category relates to your perceived opinion of whether or not the content of each session will be useful to the SLR and the Network.

The rating scale is a 1-5 Likert-Type Scale with 5 denoting highest importance and utility and 1 denoting lowest importance and utility. Note: circling a 5, etc. for Perceived Importance does not necessarily mean that you should give the same rating for Perceived Utility.

Perceived Importance						Perceived Utility				
5	4	3	2	1	1. The keynote presentation "What's in the Future for Vocational Education Curriculum" was well-planned, thought-provoking, and timely.	5	4	3	2	1
5	4	3	2	1	2. The reactors' panel addressed relevant concerns of the keynote presentation.	5	4	3	2	1
5	4	3	2	1	3. The information presented on "Network Accomplishments" aided in increasing overall understanding of the Network activities.	5	4	3	2	1
5	4	3	2	1	4. The "USOE Report" provided an informative, timely, update of USOE activities.	5	4	3	2	1
5	4	3	2	1	5. The information on "National Product Nomination, Selection and Dissemination" provided new insight into the process for utilizing national products.	5	4	3	2	1
5	4	3	2	1	6. The presentation of "Instrumentation Models for Curriculum Availability" assisted in identifying and defining curriculum availability problems and suggested methods for eliminating them.	5	4	3	2	1
5	4	3	2	1	7. The "Regional Network Meetings" addressed regional concerns.	5	4	3	2	1
5	4	3	2	1	8. The presentation "Learning Style Mapping with Implications for Curriculum Development" provided helpful ideas, suggestions, etc., related to curriculum development and planning.	5	4	3	2	1
5	4	3	2	1	9. The "Curriculum Exhibits" provided for review of newly developed materials which had not previously been available.	5	4	3	2	1
5	4	3	2	1	10. The presentation of the "Luncheon" was informative and entertaining.	5	4	3	2	1

5	4	3	2	1	11. The session on "The Vocational Education Curriculum Specialist Program" provided valuable, relevant information with regard to assisting in use of the materials.	5	4	3	2	1
5	4	3	2	1	12. The mini-workshop "Curriculum for Apprenticeship Programs" provided valuable, relevant information for the role of an SLR.	5	4	3	2	1
5	4	3	2	1	13. The mini-workshop "Energy Curriculum Implications" provided valuable, relevant information for the role of an SLR.	5	4	3	2	1
5	4	3	2	1	14. The mini-workshop "Adaptation of Curriculum Materials" provided valuable, relevant information for the role of an SLR.	5	4	3	2	1
5	4	3	2	1	15. The mini-workshop "Legislation on CETA and Curriculum Impact" provided valuable, relevant information for the role of an SLR.	5	4	3	2	1
5	4	3	2	1	16. The session "Implications of Research on Curriculum Development and Evaluation" provided insight into future impact and planning for curriculum development and evaluation.	5	4	3	2	1
5	4	3	2	1	17. The presentation "Curriculum as a Change Agent" assisted in identifying methods for bringing change to educational programs with curriculum products.	5	4	3	2	1
5	4	3	2	1	18. The "overall program" provided SLR's with timely ideas, helpful information, suggestions, etc., related to assisting them carry out the functions of the Network.	5	4	3	2	1

A major point of concern for us should be that only 32 SLRs turned in evaluation instruments. The following is the rank of the individual centers on the meeting.

Perceived Importance

Rank	Mean	Center
1	5.00	Northeast
2	4.83	Southeast
3	4.44	East Central
4	4.40	Northwestern
5	4.33	Midwest
6	4.00	Western

Perceived Utility

Rank	Mean	Center
1	4.83	Southeast
2	4.67	Northeast
3 (Tie)	4.20	East Central and Midwest
5	4.40	Northwestern
6	3.00	Western

Additional comments, suggestions, concerns, etc.

Listed below are comments by SLRs on the evaluation instrument.

It was enjoyable but too little time to relax.

This is the sixth concurrent meeting for me and this is the best.

Involvement of new - additional - faces in program offerings. Old wine is excellent, but we should sometimes sample the new.

This was a much better meeting than last year.

The program and conference exceeded my expectations. I found it informative and helpful. The planning committee did a good job.

I vote for Seattle next year.

The best planned and interesting NNCCVTE conference yet.

Suggest that summary (written) of accomplishments be prepared to accompany the regional reports. Retain placement of regional meetings within rather than at end - and make it working session for network concerns. An excellent meeting.

More time for Ron McCage and Jim Orr.

Keep to time schedule. Allow time for interaction (informal). As a non-coffee-tea drinker, I would appreciate another option (soft drink, juice) if I am to pay for it.

"Perilous case of sex..." Could have involved group more; was thought provoking.

Like hands-on activities rather than sitting and listening.

SLRs' Evaluation of Concurrent Meeting
Denver, Colorado, July 10-12, 1979

	TOTAL (N = 32)		Northeast (N = 3)		East Central (N = 9)		Southeast (N = 6)		Midwest (N = 6)		Northwestern (N = 5)		Western (N = 3)	
	Perceived Importance	Perceived Utility	P.I.	P.U.	P.I.	P.U.	P.I.	P.U.	P.I.	P.U.	P.I.	P.U.	P.I.	P.U.
1. Keynote "Future for Vocational Curriculum"	4.61*	4.07	4.33	4.33	4.89	4.33	4.50	4.00	4.00	3.50	4.80	4.00	4.33	2.67
2. Reactors' panel	3.51	3.12	3.00	2.67	3.89	3.22	3.17	2.83	3.80	4.33	3.60	3.00	2.00	2.33
3. Network Accomplishments	4.44	3.93	3.33	2.67	4.33	3.78	4.17	3.67	4.33	3.67	4.75	4.50	5.00	3.67
4. USOE Report	4.11	3.61	3.67	3.00	4.44	3.67	4.33	4.17	3.67	3.50	4.20	3.40	4.00	3.00
5. National Product Nomination, Selection and Dissemination	3.57	3.27	3.33	3.67	4.00	3.89	3.00	2.50	3.33	3.00	3.20	3.00	4.00	2.67
6. Instrumentation Models for Curriculum Availability	4.16	3.86	3.33	2.67	4.78	4.22	4.67	4.50	3.50	3.00	3.00	3.00	4.33	4.00
7. Regional Network Meetings	4.56	4.24	4.33	3.67	4.22	3.33	4.67	4.67	4.50	4.50	4.40	4.40	5.00	4.33
8. Learning Style Mapping	4.58	4.47	4.67	4.33	4.78	4.56	4.17	4.00	4.67	4.83	4.20	4.60	4.67	4.00
9. Curriculum Exhibits	4.52	4.35	4.00	3.67	4.60	4.50	4.83	4.83	4.83	4.50	4.40	4.40	3.67	2.33
10. Luncheon Speaker	4.00	3.73	4.33	4.00	4.10	3.80	4.17	3.67	4.50	4.17	3.40	3.00	5.00	4.50
11. Vocational Education Curriculum Specialist Program	3.22	2.83	3.50	3.00	4.22	3.22	3.17	2.83	3.60	3.20	2.40	2.40	1.00	1.00
12. Curriculum for Apprenticeship	3.82	3.54	3.00	2.00	3.57	3.14	3.80	4.67	3.33	3.00	3.67	3.33	5.00	4.50
13. Energy Curriculum Implications	4.26	3.67	4.00	4.33	4.57	3.14	4.00	3.80	4.50	2.50	4.50	4.00	2.00	1.00
14. Adaptation of Curriculum Materials	4.09	3.91	3.33	3.67	4.50	4.00	4.00	4.33	4.00	4.00	4.75	4.50	3.67	2.33
15. CETA and Curriculum Impact	3.93	3.86	4.50	3.00	4.50	4.50	3.00	3.40	4.67	4.67	2.50	2.50	4.50	4.50
16. Implications of Research on Curriculum Development	3.91	3.80	3.33	3.33	4.00	3.78	3.83	4.00	4.40	4.40	3.00	3.00	3.67	2.67
17. Curriculum As a Change Agent	3.94	3.74	5.00	4.67	4.20	3.70	2.67	2.83	3.67	3.50	3.75	4.00	5.00	5.00
18. Overall Program	4.56	4.39	5.00	4.67	4.44	4.20	4.83	4.83	4.33	4.20	4.40	4.40	4.00	3.00

* 5 Point Scale

X. 1979 NNCCVTE Concurrent Meeting Participants

1. Don Austen, Oregon SLR
2. Larry Barnhardt, North Dakota SLR
3. Juanita Bice, National Center for Research of Vocational Education
4. Steve Bishopp, Washington State Department
5. Dorothy Brown, Iowa SLR
6. Hermon Cabrera, Spain
7. Shirley Chase, National Center for Research in Vocational Education
8. Craig Clauser, American Samoa SLR
9. Linda Cochran, Michigan SLR
10. Pam Crawford, Illinois State Board of Education
11. Iris Criscoe, Auburn University
12. John Crittendon, Florida SLR
13. Bill Daniels, Northwest CCC, Project Director
14. Gerald Day, Maryland SLR
15. Ben Dickens, Auburn University
16. Jan Dickson, Utah SLR
17. Rebecca Douglass, East Central CMC Project Director
18. Don Elson, Virginia
19. Dan Elwood, South Dakota SLR
20. Bessie Ethridge, Washington D.C. SLR
21. Robert Fritz, Auburn University
22. Denise Frobose, New Jersey Curriculum Lab
23. Doug Hammar, Idaho SLR
24. Fred Harrington, West Virginia
25. Mary Harville, Georgia SLR
26. Earl Hay, New York SLR
27. Duane Helle, Auburn University
28. Amon Herd, Missouri SLR
29. Tom Hindes, Ohio SLR
30. Roy Hinrichs, Mississippi SLR
31. Henry Hoff, Colorado State Department
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33. Bill Jackson, New Mexico SLR
34. Verdell Jackson, Alaska SLR
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42. Mary Marks, USOE
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44. Roz Mesnik, Minnesota SLR
45. Foster Miles, Virginia SLR
46. Richard Monteith, New Hampshire SLR
47. Larry Moore, Auburn University
48. Meg Murphy, North Carolina SLR
49. Elliot Nowles, National FFA Office, Alexandria, Virginia

50. Harold Paraday, AABIN (American Association of Vocational Instructional Materials)
51. Maurice Parent, Maine SLR
52. Bob Patton, Midwest CCC, Project Director
53. Peggy Pattrick, Arkansas SLR
54. Bob Perry, Colorado SLR
55. Jim Peterson, Washington
56. David Poston, Louisiana SLR
57. Wilhelm Rengill, Micronesian Occupational College
58. Courtney Riley, Nevada SLR
59. Merle Rudebusch, Nebraska SLR
60. Jill Russell, National Center for Research of Vocational Education
61. John Salas, Guam SLR
62. Joyce Sawatzky, Oklahoma SLR
63. Harley Schlichting, Missouri Curriculum Lab, Columbia, Missouri
64. Pat Schrader, Kentucky
65. Rachel Schweitzer, Delaware SLR
66. James Shill, Southeast CCC, Project Director
67. Doug Siles, Alabama Industrial Development
68. Ivan Simmons, Indiana SLR
69. Norm Singer, National Center for Research of Vocational Education
70. Frank Slapar, Kansas SLR
71. Victor Sonden, Trust Territory
72. Art Tartaglione, Rhode Island SLR
73. Mitsuko Toyama, Hawaii
74. Yukio Toyama, Hawaii
75. Barbara White, Hawaii SLR (acting)
76. Guy Wilmoth, Tennessee SLR
77. Walter Wimmer, Vermont SLR
78. Jeff Wulf, Montana SLR
79. Jan Zancanella, Wyoming SLR
80. Larry Zane, Western CCC Project Director
81. Cliff Zenor, Wisconsin SLR

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